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ABSTRACT

Articles collected in this issue of UNICEF News deal with different aspects of the theme of the child and its environment. Specifically, topics covered include (1) awareness of the kind of world our children will inherit; (2) the survival of an urban child; (3) the survival of a Sahelian rural child as a working member of his farming community; (4) environmental factors affecting children; (5) effects of "desertification" on livelihood in India; (6) dangers of the increasing use of chemicals and their poisoning effects on humans; (7) a species of nutritious fish new to Bangladesh; (8) problems of land tenure and unemployment in Mexico City; (9) strange but natural habitats in foreign countries; (10) urban renewal in Indonesia; (11) internal conflict in India concerning the preservation of forests as a source of energy; (12) fuel needs in rural parts of the Third World; (13) an international tree planting campaign; (14) reflections on technology; (15) ideas for development education in the classroom; and (16) an update of UNICEF activities, films, and materials. (BJD)

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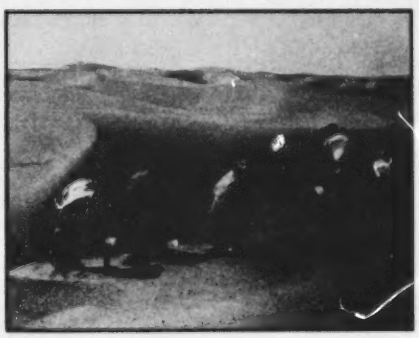

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What kind of world will our children inherit?

"We have not inherited the earth from our fathers; we have borrowed it from our children." This revealing phrase comes from the *World Conservation Strategy*, a blueprint for environmental protection produced in 1980 by a co-operative effort of the International Union for Conservation of Nature (IUCN) and the World Wildlife Fund (WWF) with the United Nations Environment Programme (UNEP), and other UN agencies.

Truly, we have in a sense borrowed the earth from our children, and their hopes, their way of life, and in some cases their very survival will depend on the state in which we return it to them.

The world of today is something less than a paradise. Its 4,000 million people include the comparatively healthy, wealthy and comfortable population of the industrialized nations, whose environmental, social and economic problems pale into insignificance compared with those of the 400 million—or ten per cent of the world's population—who suffer from extreme poverty and environmental deprivation. But the world has the potential to become an immeasurably worse, or a significantly better, place in which to live.

What are the chances that the actions of this generation will determine favourably the future of the next? In 25 years time will today's children look back on 1982, the 10th anniversary of the United Nations Conference on the Human Environment held in Stockholm in 1972, and regard it as a landmark on a downward or an upward path?

The world's environment—that is, the total of its life-support systems—is in a growing state of crisis. Today's world is beset by a long series of environmental problems: spreading deserts, soil erosion, resource depletion, industrial contamination, air and water pollution, uncontrolled growth of cities, destruction of tropical forests and the ozone layer. Some of these problems threaten the health and survival of today's children. Others threaten their future livelihood, or that of their own children.

The environment is under threat from both ends of the human scale—from the affluent few and from the poverty-stricken many. It has been recognized for a decade or more that the few affluent nations or people that use resources extravagantly cause more environmental stress and require more ecological carrying capacity than the many who live more simply, more frugally, and in a less energy- and resource-wasteful way. It is also true that the very poor can have a disproportionately high environmental impact, which can affect not only their own, but also other societies, resource base.

> "We have not inherited the earth from our fathers; we have borrowed it from our children."

These problems are growing rapidly with the increasing resource depletion brought about not only by wasteful patterns of consumption, but also by the sheer magnitude of population growth. In the poorer countries of the Third World, where most of the population growth is occurring, environmental impoverishment is mostly caused by poverty itself; and unlike in the developed countries, these countries lack the means to deal with its consequences. In order to survive, they are forced to destroy the very resources upon which the survival of their children depends.

The threat to man's environment, and his recognition of that threat, has had its own effect in the ten years since the UN Conference on the Human Environment first established a special UN agency to monitor and co-ordinate action in the environmental field. Since 1972, there has been a massive growth of environmental awareness throughout the world, and of understanding of the interdependence of countries. At Stockholm in 1972, people recognized that "the pollution of poverty" was the worst of all pollutions. It was also recognized that environmental concerns should be a part of development, not a barrier to it.

This issue of UNICEF News, in celebration of the 10th anniversary of that Stockholm Conference which elevated environmental concerns to an equivalent level with the economic and social concerns already addressed by the diverse organizations of the United Nations, addresses itself to "the child and the environment." In many cases, the terms "environmental" and "social" are interchangeable when related to children, to their upbringing, their living environment, and their prospects of inheriting a world in which there is enough to eat, clean water to drink, and a convivial habitat to live in. The battle to increase awareness of the underprivileged conditions in which so many children in developing countries are born, grow up, and will in time raise their own families, is a part of that wider battle: to return the earth to those for whom we hold it in trust in a better state than the one in which we found it. □

This introduction was mainly prepared by Seifulaziz Milas of UNEP's information staff in Nairobi.

Carlinhos: the hard gloss of city polish

Carlinhos is a shoeshine boy on the streets of Rio de Janeiro. Since he was seven-years-old, he has had to support himself by living off the urban jungle. But he has never understood why people look down on him, or fear and reject him, for simply fulfilling the role in which city life has cast him. By PETER TAÇON.

He really looked about eight—far too young, far too little, far too weak to be fending on his own as a shoeshine boy in front of Copacabana Beach. At first reluctant to tell his story, he ended by chattering incessantly as his brush moved artistically around my feet.

Six years on city streets had not been kind to Carlinhos, but somehow they had made him wise beyond his years. They had denied him schooling, play and—most important of all—a family. But somehow this dark, skinny 13-year-old had made the tough sidewalk life work for him, as he struggled to survive one day at a time.

As I listened to the painful narrative of how this undernourished little entrepreneur in front of me had become what he was today, I recalled how often I had heard about these happenings in children's lives before—thousands of times in hundreds of places throughout Latin America, to be sure. Carlinhos was speaking on behalf of at least 40 million brothers and sisters, and he was being very lucid indeed.

This is how he put it to me. "You've got to be strong to make it here—and you've got to make it, because there's no place else to go. I can't go home or my stepfather will beat the hell out of me and kick me back onto the street anyway. My mother cares, but she's tired—and she's got to do what *he* wants anyway, and that doesn't include having me around.

Carlinhos: "Six years on city streets had not been kind to him. But they made him wise beyond his years." Photo: Taçon

"Street life's tough. The bigger kids beat you up and take your money. The police pick you up and hit you and take you to the centre—and sometimes they beat you there too. Some days it seems that everybody hates us street kids. You ought to see the looks that some adults dish out—and hear what they shout at you—as if we ought to feel ashamed because we're poor. You get used to it, for sure, but you never get to like it.

"Sleeping's about the worst part of living here—finding a safe place where people will leave you alone; it can be dangerous, I tell you. Being alone is worse still—just being by yourself without anyone in the whole world who loves you or gives a damn about you. I don't want to join a *bando* and start stealing; there's no future in that— and I sure don't want to hang out with the homosexuals just to buy love. So, I'm lonely a lot of the time.

"I really miss my mother, I guess, and just anyone to be close to. You've got to be strong..."

The concrete jungle

Carlinhos underlined the points he made as he spoke with black flashing eyes. But, from under innumerable layers of street dirt, shone a courage to win and a pride in being able to live and work by one's wits. The concrete jungle had taken

"Sleeping's the worst part of living here—finding a safe place where people will leave you alone. It's dangerous." ICEF 9052/Tacon

Peter Taçon is UNICEF's regional advisor in Rio de Janeiro for children without families.

its toll on his thin little body, but it had no chance of breaking his spirit. The merciless demands of daily street life had turned a lost little seven-year-old into a strongly independent businessman-cum-philosopher of 13.

The son of impoverished farmers, who had moved to Rio de Janeiro in search of a new life with Carlinhos and his four brothers and sisters when he was very little, Carlinhos had become just one more victim of filthy urban slums, parental disillusionment and frustration, family disintegration, and eventually abandonment.

He had seen his father leave home. Then he had seen how his mother's lack of education and training forced her into depending upon a series of male partners, all of whom seemed to leave her with less hope and energy and with more sons and daughters.

Since he started living on the streets, he had not returned home more than a dozen times in all. He had accepted without question his need to support himself. He had also accepted being abused and exploited by adults. It was all a part of what he called "the war of the poor." But he had never understood why this sort of life should be necessary for kids.

He used his own words—not borrowed ones like "danger," "rejection" and "fear"—when he spoke of what he saw in the faces of the more fortunate, Brasilians and foreigners alike. It puzzled his normally happy and loving self that people should feel badly towards him for being how life had made him. When I suggested to him that at least, like other street children, he had freedom, he scoffed at me professorially.

"Carlinhos may be lonely at times, but he is far from alone. Half of the 40 million street kids in Latin America live in Brasil." ICEF 9053/Taçon

Unfree freedom

"What freedom is there from getting hungry? What freedom do you see here to go to school? What freedom do I have from having to do this same thing for the rest of my life? Where's my so-called freedom when I turn eighteeen?"

The more he spoke, the angrier he became, until he finally bolted upright, tossed his shoeshine brush high into the midnight air, caught it again—and howled with laughter.

"You didn't really mean freedom *freedom*, did you?" He rejoiced, having saved me from complete discredit. I guessed not.

As the cloth squeaked through the final touches of a high quality performance, Carlinhos, ever the businessman, unwound his emotions in much lighter conversation of a typical male-to-male nature. He was a masterful survivor to be sure. He was making it through yet another day—and with a smile on his face which radiated a love for life. But who, besides Carlinhos himself, was considering his tomorrow?

Carlinhos may be lonely at times, but he is far from alone. Half of the 40 million brothers and sisters who share with him the city streets of Latin America live in his own country, Brasil. While the problems of Carlinhos and other street children without families is nowhere more dramatic than it is here, nowhere else does such determination exist to return dignity to these lost lives. No other government in the Americas is more committed to resolving this painful social reality, which has been principally brought about by the so-called "industrial miracle." A national programme of prevention is being developed with UNICEF's co-operation so that millions of children who struggle for street survival daily, like Carlinhos, will be able to grow up as full and useful partners in building a new society.

Carlinhos' courage, pride, inner strength, self-sufficiency and skills in living, learned and practised on the streets of Copacabana, will be valuable assets as he is called upon to help build the new Brasil for his own sons and daughters. □

Upper Volta

Gingli: a spirit that comes and goes

Gingli is a child of the Sahelian countryside, the only survivor of his mother's 14 pregnancies. At the age of 12, he is already a full working member of his farming community. Some ideas governing Gingli's upbringing remain unchanged. But even where Gingli lives, modernization is having an effect on childhood. By GRACE HEMMINGS GAHIPAN.

Gingli could easily be mistaken for a short eight-year-old. I first met him in his paternal uncles' courtyard where his family was living. He looked at me and said in a very mature voice: "They say you are white, but you and I are the same." I was very moved by this sign of acceptance at first sight.

Later I discovered that Gingli was not eight but 12-years-old and that he was his mother's only surviving child.

She had had 14 pregnancies: five miscarriages, two children who died within days of their birth, and six who died before they reached four-and-a-half years of age. She recalled each pregnancy, each birth, each burial with terrifying precision; but Gingli "came and stayed."

Gingli has many names including two that mean "we have seen you before" and "don't break your mother's heart." In this society children are believed to be the reincarnation of dead ancestors, who come and go at whim with cruel disregard for parents' feelings. Consequently, parents must be extremely kind, gentle and nurturing to their own children to convince the capricious members of the spirit world to return as children. Many child-rearing practices have evolved around these beliefs.

A child is rarely disciplined by his own parents—rarely brought up by them, in fact. He is very much a member of an extended family of which the strictest disciplinarians are his older brothers, sisters and cousins. His uncles and aunts are his advisors and educators in learning a trade, and are also his trustees, making sure, if his parents die, that his material needs are met.

"Gingli was given a little peanut field to sow for himself. He helped his father clear the scrub." Photo: Dominique

Grace Hemmings Gahipan is an anthropologist and sociologist with extensive field experience in West Africa. She is currently based in Dakar.

His parents are there to love him.

Sometimes a mother will repeatedly lose children. It is believed that the same spirit keeps returning to hurt the parents, and after a number of these births the molesting spirit is discouraged by a particularly unpleasant burial. The dead infant's body is often mutilated in a particular way so that when the next infant is born the parents will be able to identify whether the previous spirit has been again reincarnated, or another one. The newly born infant's little body is carefully examined for signs of a birthmark like the mutilation. If there are any such signs, the parents are warned that this child may not stay with them. He is then given names such as "the one we recognize," like the ones given to Gingli, and special offerings are made on his behalf. He is treated with particular care as he is growing up and often left in the care of the most successful women nurses in the family.

Herb teas for the newborn

A newborn infant is cared for by an older woman—the grandmother, a senior co-wife in the household, or a specialist in infant care. An older woman is familiar with all the medicinal herbs for strengthening and for medical treatment. Herbs are boiled, made into teas and given to the infant every day. There are many varieties—I collected the names of 14 herbs used only for problems related to bowel movements, from constipation to diarrhoea. Children who are destined for particular offices are given additional teas; prospective court bards, for example, who have to know entire genealogies by heart, are given specific teas to sharpen their memory. Older women have often told me that many of the herbs they used to utilize in the past are no longer available because of progressive desertification.

The infant learns control not by punishment or frustration but paradoxically by the immediate satisfaction of his needs. He is rarely allowed to cry for more than a few seconds; unless of course he is in terrible pain or discomfort. As soon as he cries he is cradled, handed to his mother to be fed, or held off to the side so that he may urinate or move his bowels. He is in constant bodily contact with his male and female relatives; tied to their backs or held on their hips. At times he doesn't even have to cry, his slightest body movement is accurately interpreted, and seen to. The result is remarkably quiet babies, remark-

"He and his father dug the peanuts out of his field. That year his little plot produced 54 kilos of shelled peanuts." ICEF 9049/Dominique

ably quiet children, and adults possessing great calmness and composure, qualities often misinterpreted as passivity or fatality by superficial observers.

A woman usually refrains from intercourse for three or four years following the birth of her child. When her next child is born the older child is subjected to a dramatic weaning ceremony in which he is asked to "leave" his mother to care for the new baby. Other breasts will now be offered to him but rarely his mother's.

Their first trial weaning

Little boys now wear a small shirt made of three bands of woven cloth, and henceforth spend most of their time with the older boys and men. They no longer sleep in their mother's or female caretaker's house. Little girls wear a small sarong of woven cloth and spend most of their time with the older girls and women. Weaning is a very hard time for children—their first trial. In the past, before "money came," as the villagers put it, the extended family was more cohesive, and there were many more people to care for the weaned child and love him.

The villagers' integration into the cash crop economy means that large families, which together used to produce all the food and material goods they needed, have broken up into small, nuclear families. Now people support themselves by growing peanuts, which they sell in order to pay for the manufactured goods which have replaced the household goods they once made themselves. The children lose out in two areas, in the amount of nourishment and in the amount of adult attention available to them.

As the exchange value of agricultural goods relative to that of manufactured goods declines, farmers are forced to produce more and more. Families, already reduced in scale, must farm larger and larger areas, and their problems are compounded by progressive desertification and the consequent lowering of agricultural yields. The more the farmers produce to sell, the less they have to eat, often having to sell part of the food they had set aside for their yearly consumption because of unforseen expenses, or because the prices of the things they must buy have unexpectedly risen.

Under these circumstances the labour resources of small families are pushed to their limits during the agricultural season. Children feel the lack of adult attention acutely at this time. Their parents are preoccupied, and there is no-one else, as there used to be, to extend a free hand. An old woman said "When I was a young girl my father's sister and all her family cared for me...Under this new sun, as soon as a child is born he is shown his parents and those are the only people he can call "mother" and "father." They are the only ones to clothe him, feed him and care for him." Modernization, cash cropping and the decline in real income of farmers is progressively taking its toll on the time and resources parents can spend on their children.

Gingli's peanut field

In 1977 Gingli was given a little peanut field to sow for himself. He helped his father clear the field by chopping down the scrub that had grown in between seasons, and, with his mother and girl cousin, gathered and burned the millet stalks. The soil was almost pure sand, perfect for peanuts but not so good for sorghum. In fact they were only able to grow millet and peanuts that year. Once the sowing was over, Gingli and his cousin diligently watched over the fields to protect the seeds until they sprouted, from the swift, gluttonous pheasants and guinea fowls. The peanut fields require the most frequent and most delicate weeding.

At harvest time, because Gingli was small and agile, he climbed into the granary to arrange the millet stalks as they were handed to him. He and his father dug the peanuts out of his field while his mother and his cousin picked the grains off the roots. That year his little plot produced 54 kilos of shelled peanuts and earned US$7. He was so proud.

But his pride in the fruits of his labour was marred by his cousin's illness at the beginning of the dry season. She began having such difficulty breathing that she was taken to the hospital in Ouagadougou 212 kilometres away by road. The trip plus expenses came to about US$30. She never returned. Gingli explains softly that "she was very, very tired." The hospital and funeral expenses meant the family had to sell off some of their meagre food supply.

In spite of the precarious balance between their debts, their harvests and their food supply, Gingli is confident. He has seen many hard times and survived. One summer six young men of the village died of measles. He survived, "for my mother," as he believes. And he will continue to do so. □

Our children's world: the facts

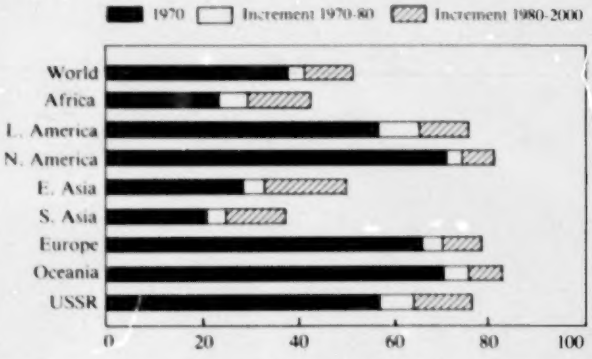
Habitat

Urbanization

The proportion of those living in cities compared to the countryside is growing rapidly due to:

- high rate of population growth
- dramatic migration of people from the countryside

Urban population as percentage of total population

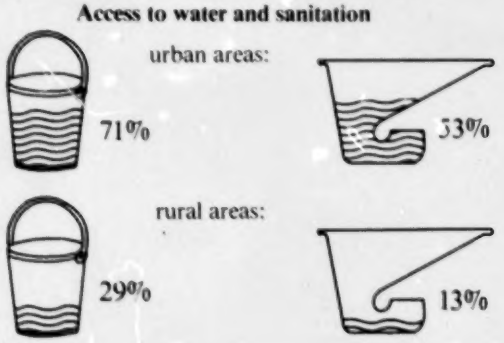


Source: The State of the Global Environment a Decade after Stockholm. Nairobi: UNEP, Jan. 1982

Town and countryside

In the cities, services are more necessary because of public health hazards, and easier to provide, and therefore more often available. Unfortunately, their existence helps to attract people from the countryside, thus increasing the pressure on them.

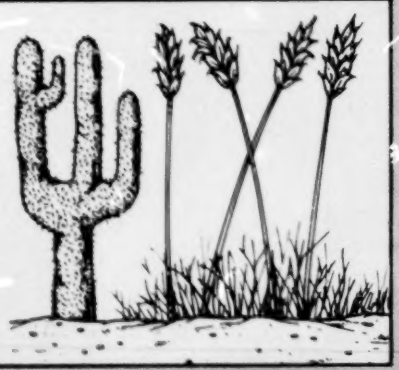
Access to water and sanitation



Source: WHO

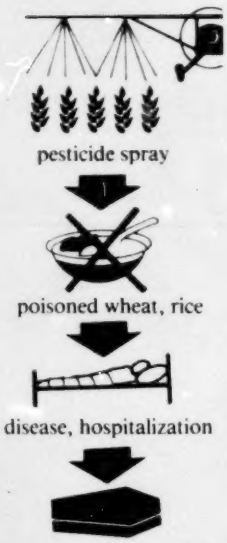
Desertification

At present estimates, the world's desert areas will expand by 20% by the year 2000. Per year, 6 million ha. are lost, 20 million ha. degraded, including 2.6 million ha. of farmland. The UN has identified 2 billion ha. of land where risk of desertification is "high" or "very high."



Pollution

The poisoned plate



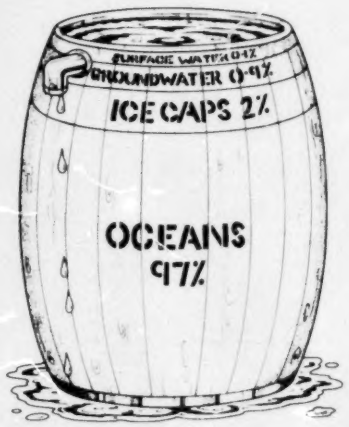
Chemicals in agriculture: Every year thousands of chemicals—pesticides, fertilizers, herbicides, fungicides—are sprayed or spread onto land under cultivation. Some are harmlessly broken down. Others end up on our plates and in our bodies.

- **Iraq, 1971:** intensive spraying of wheat by alkylmercury led to contaminated bread; 6,000 people hospitalized; 500 died.
- **India, 1974:** contamination of local maize led to hepatitis epidemic in 150 villages; 994 people affected; 97 died.

Non-pest species of animals, birds, fish can also be affected; the pollutants can stay in environment for years and spread over large distances.

The poisoned cup

Chemicals in the water supply: More than 90% of our fresh water is in vast natural storage tanks underground. Cesspools, septic tanks, discharges of urban and industrial wastes, expanding use of chemicals in agriculture contaminate ground water and cause marine pollution.



Cleaning up

In the industrialized world, the costs of environmental policies has been estimated at 1%-2% of GNP. The cost of pollution damage is currently estimated at 3%-5% of GNP.

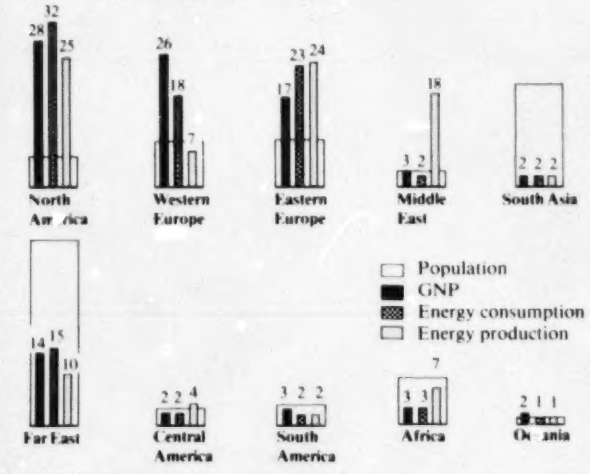
- Cleaning up oil-spills costs $1,000 per barrel spilled
- In USA, air pollution damage costs $2 billion p.a.

Source: Stockholm Report, UNEP; 1981 State of the World's Environment Report, UNEP

Energy

Distribution of energy*, wealth and population

(percent of world totals, 1976)



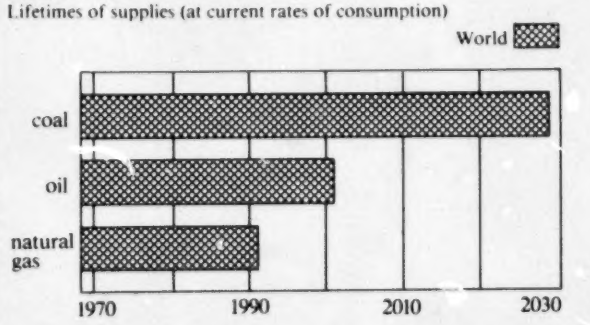
*includes fuelwood

Wood: the other energy crisis

For one-third of the world's population, the shrinking forests constitute the only source of fuel for warmth and cooking. 45% of world's extracted wood is used as firewood, 86% in developing world. In past 25 years, half the world's forest cover has disappeared.

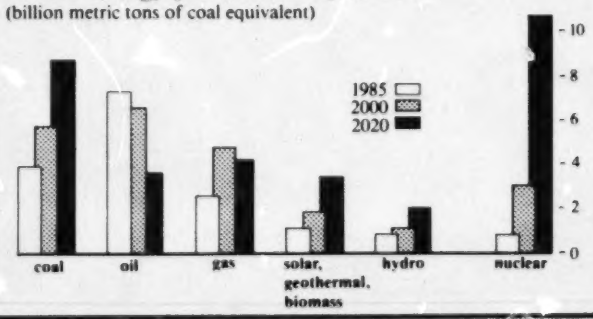
Fossil fuels

Lifetimes of supplies (at current rates of consumption)



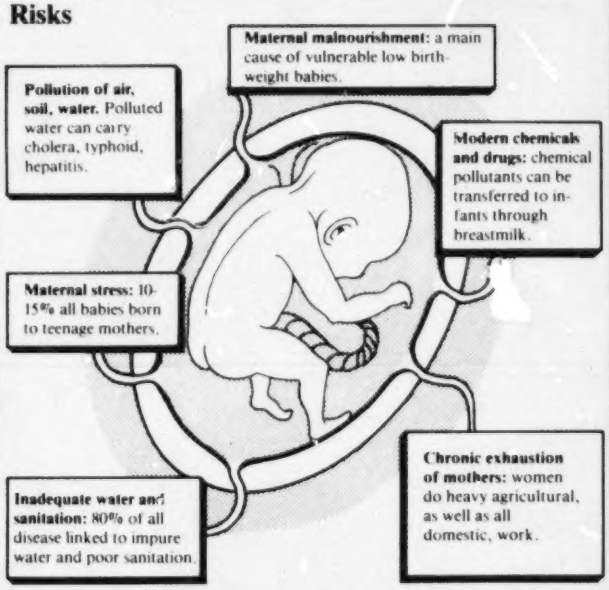
World energy production by 2020

(billion metric tons of coal equivalent)



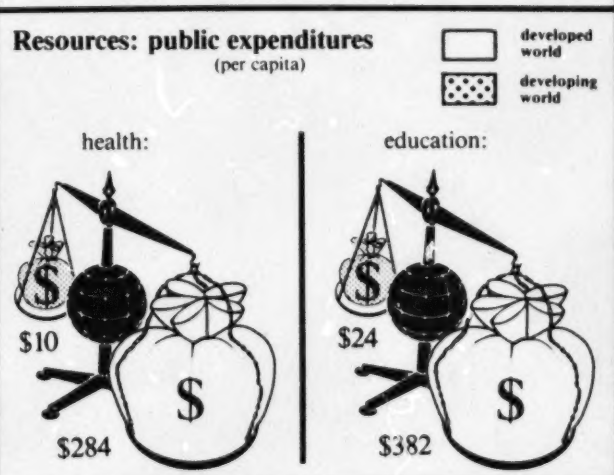
The social environment

Risks

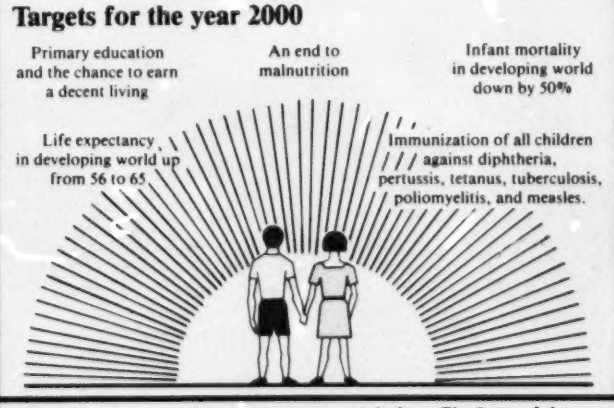

Maternal malnourishment: a main cause of vulnerable low birth-weight babies.
Pollution of air, soil, water. Polluted water can carry cholera, typhoid, hepatitis.
Modern chemicals and drugs: chemical pollutants can be transferred to infants through breastmilk.
Maternal stress: 10-15% all babies born to teenage mothers.
Chronic exhaustion of mothers: women do heavy agricultural, as well as all domestic, work.
Inadequate water and sanitation: 80% of all disease linked to impure water and poor sanitation.

Resources: public expenditures

(per capita)



Targets for the year 2000


Primary education and the chance to earn a decent living
An end to malnutrition
Infant mortality in developing world down by 50%
Life expectancy in developing world up from 56 to 65
Immunization of all children against diphtheria, pertussis, tetanus, tuberculosis, poliomyelitis, and measles.

*The information on these pages comes mainly from **The State of the World Environment a Decade after Stockholm, UNEP, 1982; World Energy Survey, R.L. Sivard, Rockefeller Foundation; The Global 2000 Report; annual reports on The State of the Environment, UNEP.***

Sand and more sand

In the past 100 years, the rainfall in Jaisalmer in the deserts of Rajasthan has consistently failed. Creeping desertification is eroding not only the grazing lands, but also the people's way of life. By HENA SINGH.

In a hot, harsh, hostile land the people of Jaisalmer have carved a way of life for themselves. An arid 41,000 square kilometres in the state of Rajasthan, Jaisalmer district lies in the heart of the Thar desert. Tufts of *sevan* grass or the occasional *khejra* tree dot an otherwise unbroken stretch of mile upon mile of barren rock and sand.

Water means life for people of the desert, who look to the rains as their only source of water. But the rains have progressively failed them over the last 100 years. Studies conducted at the Central Arid Zone Research Institute (CAZRI), Jodhpur, indicate that out of the last 60 years, in as many as 22 there was less than 80 per cent of the four inches of annual rainfall regarded as "normal." The present drought, now four years old, has affected the entire district. But to the people of Jaisalmer, drought is a familiar demon.

By desert standards elsewhere, the Thar desert is comparatively thickly populated with six persons to the square kilometre. Recent census figures put the total population at 239,000 people. About 200,000 people live in villages while the rest gravitate towards the little towns of Jaisalmer and Pokhran.

The water table in the area is low, sometimes as deep as 300 to 400 feet. Often it is saline, which explains why 134 of the total 519 villages lie deserted. The soil is sandy with a poor capacity to hold water. Canal irrigation does not exist in the district, but the Rajasthan Canal project is expected to bring some relief to people in the northern part. In recent years, about 60 tubewells have been dug by the district authorities, the army and CAZRI, but they scarcely meet people's needs.

"Only five per cent of the land is being farmed. The rest is sand dunes, interspersed by scrub and wild grass." ICEF 9056/Singh

Rare rainfall collects in areas where the soil is hard and surrounded by hills. These water catchments, called *khadeens*, provide precious water for cultivation. Some water also collects in stray pools. When the village well dries, women and children trudge many miles in search of a few pots of murky water. People and animals quench their thirst at the same water spot. The growing incidence of guinea worm infestation in the district is only one sad index of this practice.

But ponds and wells dry up in the long summer months. In an annual ritual, the villagers must relay this news to the district collector who orders the unlocking of tubewells in that area. The wells are locked because the local authorities claim that there isn't enough groundwater to allow tubewells to operate all the year round.

Livestock forms the backbone of the Jaisalmer people's economy, the only viable alternative to the preferred but precarious occupation of agriculture. Without water, cultivation is uneconomical, and only five per cent of the total land area is actually being farmed. The rest is sand dunes, interspersed by scrub and wild grass.

The district has an estimated 1.6 million animal population with 1.4 million sheep and goats, 123,000 cattle and 35,000 camels. Most families possess some animals, sometimes as many as several

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hundred head, and animals outnumber humans eight to one. Livestock products go to the thriving dairy and wool industries. People tend to invest in goats and sheep, for they are hardy and well-adjusted to desert conditions. The village women say: "We milk the goat any number of times, unlike a cow who is milked only twice a day."

Even the gods can't help us

Every year when clouds pass overhead without shedding a drop, pastoral communities gather up their animals and move towards greener pastures. "Animals are our wealth," says an old herdsman waiting stoically under the burning sun while his herd nibbles at the sparse vegetation. "Even the gods can't help us," he adds, "if the animals are dead."

Often their search for water and pasture takes man and animal into eastern Rajasthan and sometimes far beyond. Families are separated for long months. The old, the young and the women are left behind in their villages of scattered homesteads or *dhanis*, living on the grains they have stored in air-tight mud *kothis*.

Strewn across the sands lie the remains of animals, silent witnesses to the menace of drought. The axe falls on the weak and old animals, a blessing say the villagers, for they have no other means of getting rid of unproductive animals, except at special "distress sales" organized at various centres.

The district authorities share the people's concern for livestock. More than 30,000 quintals of fodder were supplied at subsidized rates from March through July last year at special fodder banks. Concentrated foodstuffs were also distributed by the Gan Seva Sangh, a voluntary agency that fed over 50,000 cattle at a price per animal of one rupee a day. In north-western Rajasthan lies a stretch of free grazing land. With the help of tubewells, the government provided piped water at various points. Over the bad months more than 50,000 animals gathered there.

Drought relief

The official drought relief programme stretched throughout most of last year. As in most years, more than 75 per cent of the crops failed in 1981, leaving thousands of families without a source of income and nothing else to fall back upon.

Under the special employment programme, people work at repairing and building roads, and cement *tankas* or water reservoirs, widen and deepen existing water catchments, dig new wells and build schools. Each person receives seven rupees at the end of a day's work. Recently the construction of 76 new *khadeens*—water catchments—and 74 roads has been sanctioned. Last summer more than 25,000 persons were employed under this scheme.

Ritually, every summer, tankers roll into villages carrying precious loads of water, each family receiving a few pots for the day. Often the army is deployed to carry water to those places in the desert where no civilian truck can reach.

Ramdhan, the ex-village head of Sangarh, feels these relief measures—with all good intentions—have limited success. "Our women build roads and other constructions for the government, while the men and young children graze the animals. We cannot ignore our livestock," he explains, "even during time of *sukha* (drought). But most of the relief works are far from our pasture grounds."

Fair price shops scattered over the district provide people with their monthly rations of *bajra*, wheat and pulses at subsidized rates. But these rations at 10 kilos per head don't last long. The balance is bought in the open market. This public distribution system has an inherent limitation, offering its services only to people in settled villages, leaving out thousands of migrant families pursuing their traditional semi-nomadic pastoral life.

Over the years the effect of prolonged drought and mounting desertification has eroded the people's quality of life. Scant and sporadic rainfall limits the growth of vegetation. People eat a simple diet of *bajra* or wheat *rotis* (bread) with a pinch of red chilli paste, a raw onion and a glass of whey. Occasionally they add *moth* (a pulse) to their frugal diet. This diet is not supplemented with fresh green vegetables which in turn leads to Vitamin A deficiencies in young children.

The diet deteriorates

Tradionally, milk and ghee were a part of people's diet, but with the advent of the dairy industry seven years ago, vast quantities of milk are drained to cities like Jodhpur, Jaipur and even Delhi. Today, tins of milk powder fill the shelves in village stores. People buy loose milk powder for making tea. Children also show a growing preference for this drink. A kilo of cow's milk is sold for two rupees and the extra income is spent on improving and building better homes, buying more livestock, new clothes or even a transistor. Most people agree that they ate a better diet some years ago.

Thirty-one year old Shyam Sundar Joshi, a middle school teacher at Sangarh, views the educational scene as bleak. Almost all large villages have a primary ▷

"People and animals quench their thirst at the same water spot. The growing incidence of guinea worm is one sad index of this practice." ICEF 9057/Singh

school and some even a secondary one. But poverty, early marriage, caste and sex discriminations keep children away from schools.

There are other factors that contribute to empty classrooms: the old practice of taking children out of schools when families migrate with animals, the reluctance to send young girls from distant *dhanis* and the fact that children must frequently help at home and in the fields.

Parents are not quite convinced about the value of educating children. A father says: "It takes them away from us. Those children who leave to attend high schools don't want to return to the village. They go to towns for work. If they fail to find jobs, they come back dejected, but determined they will not work with us in the fields."

At first glance people appear healthy, their sharp features framing handsome faces. Close scrutiny tells another story. The absence of life-giving water, a poor diet, and constant exposure to polluted water leaves most people vulnerable to disease. High infant mortality leads to more births, leaving mothers weak and anaemic. Ear and eye infections, tuberculosis, vitamin deficiencies, boils, waterborne diseases and measles and whooping cough are common among children.

In most cases, people rely on their traditional cures, turning to the district hospital in Jaisalmer only when all other cures have failed. Poor living conditions discourage health personnel from working in the villages. Poor communication facilities leave great parts of the district inaccessible to any kind of essential service. Dr. Inder Singh is responsible for the immunization programme in the district. He admits the programme has met with little success, attributing the blame to the traditional practice of migration during times of drought and the shortage of medical staff.

An element of resignation clouds people's perception of their future, as they face drought, famine, disease and the constant quest for life-giving water. The story of Jaisalmer continues as the story of a people's tenacity to overcome the onslaught of the endless sun, turning to their inner resources only to survive, in the absence of those services usually called basic. Describing what living in the desert means, a young villager says: "No one ever comes to our village. Only sand and more sand." □

Thailand

Poisoned fruit

In Asia chemicals are becoming part of the "natural" environment. But with a lack of control over their use and their labelling, the number of cases of toxic poisoning among children and mothers is rising. By DONATUS de SILVA.

A four-year-old child in Sri Lanka suddenly collapsed while playing in her garden. She was immediately rushed to hospital. Doctors, misled by the head wounds she had suffered in the fall, diagnosed her coma as brain concussion and treated her accordingly. Soon afterwards the child died. An autopsy showed the real killer: pesticide poisoning.

Recently some 300 students of a school in Bangkok, ranging in age from nine to 13-years-old, were hospitalized for treatment after eating contaminated food sold by a vendor. Official investigations revealed the presence of two types of pesticides: chlorinated hydrocarbons and organophosphates.

In Pakistan, at least five persons died and 2,900 others became ill from malathion used in a 1976 spraying programme to eradicate malaria.

Incidents such as these—the results of the harmful impact of chemicals—are increasing rapidly in the Asian region.

Chemicals, no doubt, have brought certain benefits to people in the region. For instance, they have contributed considerably to increased food production and play a vital part in food preservation and processing. For the treatment and prevention of disease, pharmaceutical products have been developed which have caused a dramatic change in the application of medical science to the relief of human suffering. But at the same time, the use of chemicals has resulted in serious damage to people's health and to the environment.

Chemicals today mean big business and big benefits. At present, there are over five million known chemicals in the world, of which some 60,000 are in common use. Each year another 1,000 or so are brought into the market. The total annual trade today in chemicals between major producing countries is worth over US$100 billion.

Man is exposed to chemicals in three main ways: by inhalation, by ingestion and by their contact with his body surface. Food (including drinking water) is most people's major source of exposure to most toxic chemicals. These substances reach human food by many routes. Some contaminate it directly in preparation or processing. Others pass from soil to plants, and then from herbivorous animals to meat or milk before ultimately reaching the human consumer.

Chemicals released into the environment—industrial effluents, for instance—undergo physical and chemical changes, which may affect their toxicity. While many are broken down into relatively harmless products, others are converted to highly toxic substances which can pose a threat to human health.

In many Asian countries today living with pesticides is all but unavoidable. Farmers—and that includes women farmers and labourers—eat and drink in sprayed fields. They and their children bathe in contaminated wells and ditches. "Chemicals are quickly becoming part of

Donatus de Silva is a Sri Lankan journalist currently based in Bangkok as UNEP's Regional Information Officer

our natural environment in the rural areas," is how an agricultural extension worker in Malaysia puts it.

The lack of information

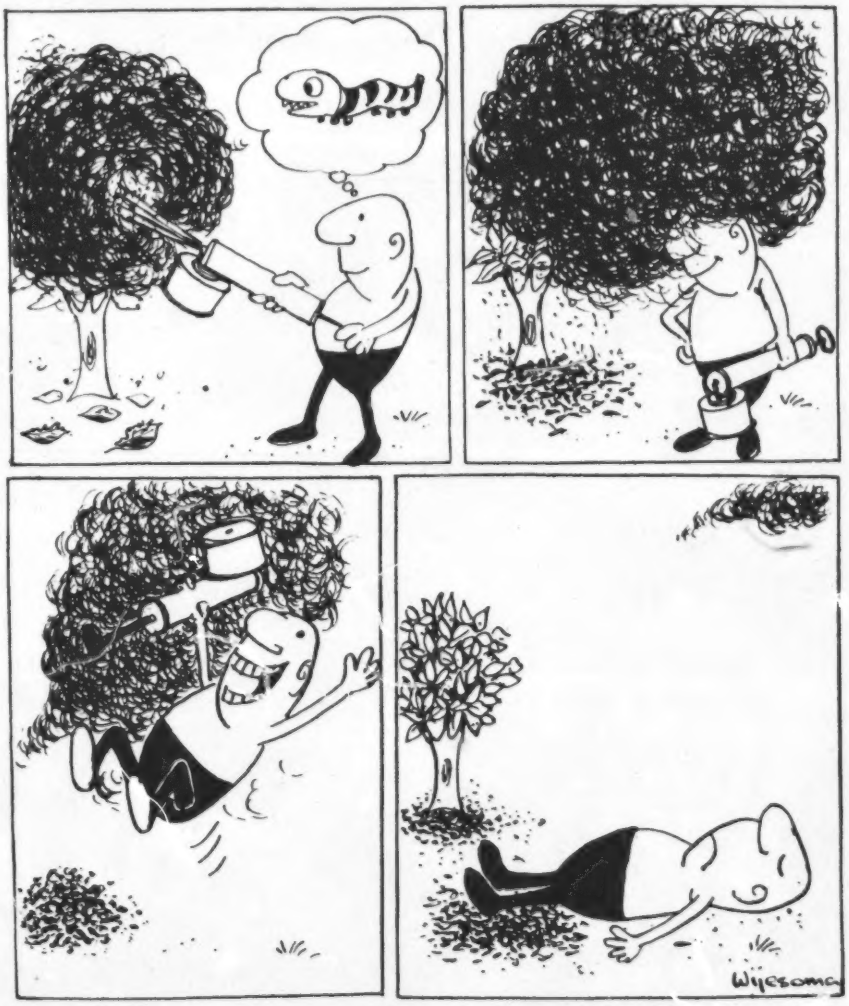
Although incidents about the negative impact of chemicals are reported in the press from time to time, just how widespread the problem is and what toll it takes on the people is difficult to determine. In most countries, authorities do not collect statistics on pesticide poisoning. Even among those that do, certain cases go unreported.

Lack of information about chemicals also presents problems for consumers. Labels on consumer items are normally intended to inform the buyer about the contents of products. But some of the labels used in products in the region would baffle even a code expert, let alone a newly literate mother. For instance, expiration dates are printed on some products in a variety of ways: 1 Dec. 80; 1/12/80; 1 x 12 x 80; 11280. Sometimes the year is squeezed between the day and the month: 18012.

Woodward's Celebrated Gripe Water for "wind pains, digestive upset and teething pains," as sold in Malaysia, is a classic example of poor labelling. The label on the Gripe Water sold in Britain clearly warns: "Keep Out of Reach of Children" and: "If symptoms persist consult your doctor." It prescribes dosage during or after each feed or up to eight times in 24 hours. The Malaysian version omits the dosage and lists the ingredients in Latin.

Its alcohol content was tested recently by the Consumers Association of Singapore. Tests revealed that the alcohol content was almost double that declared on the label. One of the active ingredients, sodium bicarbonate, reacts with the digestive juices in the stomach, producing carbon dioxide. Children who are given this particular brand may fall into a temporary stupor, while the alcohol could affect their brains.

Manufacturers at times fail to specify chemicals used as additives or artificial colouring in their food products. The use of brick-red erythrosine in catsup, without indicating its presence on the label, prompted the Philippines Food and Drug Administration to file a case against the Philippines Packing Corporation, a subsidiary of the giant Del Monte Company of U.S.A.



UNEP cartoon for World Environment Day 1981

Aware, but helpless

Awareness of the hazards of toxic chemicals is growing among the developing countries in the region. But most find themselves helpless against the mounting pressure from foreign manufacturers.

Says Dr. Prayoon Deemar, an official of the Pesticide Research Branch of Thailand's Ministry of Agriculture and Co-operatives: "Manufacturers of substances containing toxic chemicals for agricultural and pharmaceutical purposes are so powerful that they can virtually control governments of developing nations." To cite an example, he goes on, "Thailand has never banned a single toxic chemical despite the existence of the Toxic Substances Control Act."

The situation in the developing countries is further complicated by the sale of some chemicals that are banned in the countries of their origin. One such chemical widely used in Thailand is Trichlorophenoxyacetic acid or better known as its formula as 2,4,5-T. This chemical is banned in countries such as U.S.A., Britain, Sweden, the Netherlands and Italy.

No one today in any country will seriously consider giving up the use of chemicals. But it is necessary for authorities in both industrialized and developing countries to pay more attention to their side-effects, and to the risks they pose to the health and welfare of mothers and children. □

Bangladesh

Fish for fun and food

Population pressure has meant that a traditional form of food that poor Bangladeshi families rely on—fresh water fish—has become scarce and expensive. With UNICEF assistance, a species of fish new to the country—the *tilapia nilotica*—was introduced in 1977 for domestic cultivation. Rashida Begum was one of those who dug a fishpond "for fun and food." Is she eating better as a result? By SUE TUCKWELL

Pond A: The 1,000 fish fry pond. Begun in 1980 by Adam Ali, after a visit by extension personnel from a nearby fish multiplication farm assisted by UNICEF.

Adam Ali: the proud proprietor of Pond A. About 12 people each day eat two to three dozen fish. ICEF 9051/na Pombejr

Wife Nur Jehan and all eight children helped dig the pond; doubled its size after a year. Farm provided 1,000 fish fry—*tilapia nilotica*—for breeding; after two years, about 12 people each day eat about two to three dozen fish: Adam Ali estimates yield at about equivalent to six months' income.

Nur Jehan looks after the pond, feeding the fish with rice bran, cow dung (freely available); latrine and household wastes also drain into fertilize pond. Family grows bananas on banks; irrigate small vegetable plot behind their hut with low-lift pump from Oxfam. Eldest son Jahangir, in Class V, votes the fish "very tasty and full of vitamins."

Adam Ali, Jahangir and any guests eat first and most; Nur Jehan last and least.

* * * * * *

Pond B: The 100 fish fry pond. Hyatt Miah began a mini-pond after day-labouring at the fish farm. Dug it with help of family, advice and 100 *tilapia nilotica* fish fry provided by farm. Pond was inundated by flood water last year but Hyatt estimates that, in last nine months, family has eaten Taka 600 (US$34) worth of fish and sold Taka 1500 (US$85) worth. Family eats fish once or twice a week. Others have asked him how to start a pond; given advice and sold fish fry.

* * * * * *

Pond C: The 10 fish pond. Rashida Begum dug it herself on the tiny plot behind her shanty one and a half years ago after seeing neighbours' ponds. Bought mixture of fry from neighbours—*nilotica* and local cat-fish. Fed with bran, cow-dung and waste from latrine which drains into pond. Husband nets about 12 fish each week.

Her son and daughter eat most; Rashida sometimes none at all. Fish is main animal protein; meat or eggs only once a month. Rashida hopes fish will benefit children. As to taste, "What choice do poor people have?" she asks.

* * * * * *

When Rashida dug her fishpond a year and a half ago—for fun and food, as she said—she was continuing an age-old national tradition.

For Bangladeshis love water. Children paddle up to their eyes in mud in it, while more sober adults grow the family's rice in it. Every great house had its own tank or artificial pool for swimming, fishing and washing. Even the country's beautiful national emblem, the *shapla*, is a pink water-lily, to be found floating on every sheet of still water in the winter months.

In fact, Bangladesh is one of the wettest countries in the world. The great rivers, the Brahmaputra, Meghna, Jamuna and the mighty Ganges, or Padma as it is called in Bangladesh, pour down from the Himalayas and, in the monsoon months, submerge three-quarters of the country under one vast sheet of water.

No wonder then, too, that Bangladeshis

Rashida Begum: she dug Pond C herself on the tiny plot behind her shanty. Her husband nets 12 fish a week. ICEF 9050/na Pombejr

love fish. Even many Hindus who are nominally vegetarians will eat fish or prawns; in art, music and handicrafts, the boats of the fishermen and the fish themselves are a common and beloved motif. Every Bangladeshi, male or female, can discuss the flavour merits of different fish and the best ways of cooking them.

For, until very recently, fresh water fish were freely available to all classes, and were for most people, the main source of a little animal protein. Rivers, streams,

Sue Tuckwell is a development journalist currently based in Dacca, Bangladesh.

lakes and the flat lands called *beels* and *hoars*, where monsoon water might stand for four or even six months, provided the bulk of the fish catch. But the ditches dug to raise roads and houses above the monsoon water, and the other man-made ditches and ponds—which cover an incredible third of a million acres in this tiny country—provided the rest. Few people ate or preferred sea fish from the Bay of Bengal.

The fish squeeze

But, recently, in the last ten years, fish prices have inexorably risen to five or more times their previous level as demand outstrips supply: the population has risen by 22 per cent since 1974, while fish production has risen by only one per cent.

And there are actually fewer fish to go round. Because of demand, fishermen are catching all kinds of fish, including fingerlings and breeding fish, in and out of season. And they use increasingly sophisticated gear, like synthetic twine nets. Pesticides are killing fish, disturbing food chains and reducing the rate of reproduction (though there has been no comparable study on their effects on the people who eat the fish.)

Moreover, recent moves to improve water management and control floods by canals, embankments and barrages have all disturbed the patterns of fish breeding and migration.

The combined results of all these factors has been disastrous, for the cheap protein which fish represented has simply disappeared from all but relatively well-off homes, leading to increasing malnutrition, particularly among the most vulnerable groups like pregnant women and girl children.

It is all part of the gradual impoverishment of the poorest majority of Bangladeshis.

Which brings us back to Rashida, Adam Ali, Nur Jehan and the rest.

The new fish *nilotica*

For, although they do not know it, their ponds are the spin-off from a UNICEF-supported effort to increase the country's food supply by using Bangladesh's vast, assured water resources and the peoples' love of fish and fishing.

It is a second try: the early government fish-breeding efforts were languishing after the introduction of *Tilapia mozambica* failed in the fifties. But in 1977, 25 of the 101 government fish farms were aided by UNICEF and the breeding of *T. nilotica* — called just "nilotica" to avoid any repeat of the name "tilapia"—took off. The government target of 0.2 million fish fry was dramatically exceeded when 7.3 million were produced. Now farm managers say they can produce 10 million with timely inputs, and the Asian Development Bank, the World Food Programme and the World Bank are interested in taking similar projects up on a much larger scale.

"Bangladesh is one of the wettest countries in the world. The great rivers pour down from the Himalayas, and submerge three-quarters of the country." ICEF 3054/Ockwell

The farms are experimenting now with both exotic and local fish, particularly *Mola*, a popular local fish which is particularly high in Vitamin A. In a country where, doctors claim, 45 children a day go blind from lack of Vitamin A, this could be a breakthrough.

There was some initial resistance to the mass introduction of *nilotica* and other exotic fish. But experience seems to show that, on the one hand, they do not survive in open waters because of the number of natural predators and that, on the other, they thrive in the typically small, shallow waters suited to domestic cultivation. They are suited to their new environment in other ways: they do not compete with humans for food and land as cattle and chickens do; and they form a particularly elegant domestic ecosystem, by converting household waste products into food.

In any case, as UNICEF staff point out, the hard fact is that the poor at present get less than a third of their daily protein needs while vulnerable groups like pregnant women or breastfeeding mothers get even less. The balance of benefit and risk must be weighted in favour of the poor whose choices diminish daily.

Fishing clubs

Part of the UNICEF effort has been to start Junior Fish Culturist Clubs centering on the fish farms. The farm managers select local people for a month's training, then send them home to form a fish cultivation club with nine other people. By the middle of this year 4,000 people will have been trained, about a quarter of them women, who have been notably successful in their clubs. The trainees are mostly lower middle class people, though the trainers try to emphasize the need to include landless poor in the clubs. The clubs are supported by UNICEF and financed on a co-operative basis.

But the success of the fish cultivation programme will ultimately lie in the ripple effect when people like Rashida, Adam Ali and the rest of the fish growers in their area take up fish cultivation on their own initiative.

The results must be beneficial, but when Rashida digs the pond but eats the least of the fish; when Nur Jehan looks after the pond but eats the left-overs; when the fathers all eat even before the children, the question still remains—even within the family—who benefits? □

Mr. Saldivar's intentions

Angela, Amparo, Dominga and the other residents of Paraje Tlacateco, one of Mexico City's *ciudades pérdidas,* have seen many improvements in the past two years. But their lives are touched by tragedy. And their problems cannot be resolved until their landowner, Mr. Saldívar, sells up and gets out. By AIDA REBOREDO.

Angela: "We lived close by this neighbourhood for 15 years, and we were looking for a home. We were told there was an empty house here in Paraje Tlaceteco, and the rent was only 100 pesos (US$3.80), which we could afford. So we stayed.

"My daughter works as a domestic servant with a family. I wash and iron clothes for others. Life is better here than it was where we lived before. But water is lacking, which makes things difficult for washing clothes. It only flows from 4 a.m. to 7 a.m.

"It never flowed before, of course. But then, the owner was never asked to install drainage or pipes for water supply. We knew he would raise the rent. And now he has."

* * *

Angela lives in one of Mexico City's *ciudades pérdidas,* "lost towns," or slums. Paraje Tlacateco is one of 35 such districts in Delegación Iztacalco, one of the 16 areas into which Mexico City is administratively and politically divided. Each of the 35 *ciudades pérdidas* has an average of 200 inhabitants. Only seven of the slums have drainage and water supply, two of them with the assistance of UNICEF.

Paraje Tlacateco is one of the *ciudades pérdidas* where UNICEF has provided assistance. Basic services "modules" have been constructed, comprising bathrooms, showers, heaters and washing places. Each unit is shared by three families. From the point of view of the mothers and older girls, the luxury is not in the availability of a bath or shower, so much as in the abundance of faucets: where there used to be one, and that at some distance, there are now five, all close by. One of their traditional burdens—fetching the water—has become less heavy.

With UNICEF's assistance, there has been a fundamental change in the living environment for Angela and her neighbours in Paraje Tlacateco. Not only are there bathrooms and showers, drinking water and drainage, but also primary health care, health and nutritional education, and other new and previously unfamiliar services.

But with the best will in the world, the provision of the services does not guarantee any real improvement in the lives of these people unless two other fundamental needs are satisfied. The first is land tenure; the second is proper employment —an income, in other words.

The administrative authorities in Delegación Iztacalco are trying to convince the present owner of Paraje Tlacateco, Mr. Saldívar, to sell the whole place. He will otherwise face expropriation. But either course will take time to pursue, and in the meantime he claims that the living conditions in the area have improved "thanks to him," and has accordingly raised the rent by 50 per cent. The residents have no choice but to pay, though they know very well that the public services they enjoy were provided by the authorities and by UNICEF.

The removal of the septic tanks which used to be in the vicinity, and their replacement by WCs connected to the city's sewerage system has meant not only better hygiene conditions, but also created more living space for the residents. Re-distribution of the space is planned by the authorities. But this too depends on the settlement of the land tenure problem. The security of their rents; the right to

Aída Reboredo is a Mexican Journalist.

Paraje Tlacateco, one of Mexico City's ciudades pérdidas, *or slums, before the UNICEF-assisted community services were installed.* Photo: von Schultzendorff

earn a living; ultimately these are the determinants for Angela and her neighbours and their way of life.

Angela: "If we protest, we are told to leave the land. The landlord will say to us: if you agree to pay, pay up. If not, look for another place."

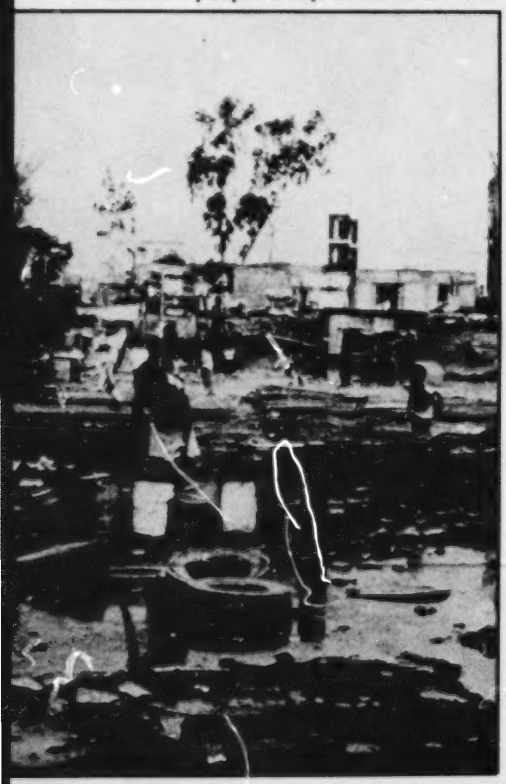
* * *

Amparo: "The high cost of living makes things very tough. Sure, they raised the minimum salary. But it doesn't help much. We eat as well as we can. But some days it's only *frijoles* (beans).

"Don't you realize? *Chile* already costs 100 pesos for a kilo, and onions cost 109. We wash, we cook, we work as maids. But our earnings do not allow us to pay a rent half as much again as we used to. Another place? Another place cannot be found."

* * *

"Another place" would cost far more than 350 pesos (US$13.20) a month, which is what Angela and Amparo currently pay. Mexico City is already overpopulated, with 16 million inhabitants, and its migration rate is over one thousand new people a day. Rents in a *vecindad*—the kind of home shared by many families and described by Oscar Lewis in "The Children of Sanchez," are nowadays as high as 1,000 pesos (US$38) minimum.



The average income of families such as Angela's or Amparo's corresponds to the minimum salary, which is 8,681 pesos (US$320) a month, and this must cover the needs of, on average, a family of six members. The women contribute to the family's income with their washing and ironing. But even so, there is little to spare for increased rents.

In Paraje Tlacateco, 60 per cent of the inhabitants are children, most of them of school age. Their diet has recently deteriorated, as has that of children all over the country. Until December 1981, a *desayuno escolar*—a school breakfast—was provided by the authorities at most schools. Sometimes this consisted of a soda pop and a cake or biscuit. In others, the children received a glass of milk and a piece of bread. Whatever it was, and however poor or rich in nutrition, at least it meant that children did not study on an empty stomach. But since the beginning of this year, the *desayuno escolar* has been discontinued. From now on, as rents rise, and inflation mounts, the children's nourishment is solely in the hands of their parents. Amparo just does what she can. And if one day there is only beans, she tries not to mind about it.

At least health has improved, even if diet leaves something to be desired. Gastro-intestinal infections, once almost endemic in Paraje Tlacateco, have all but vanished since the washrooms and drainage were introduced. At present the only ailments reported by mothers are minor: coughs, flu and throat infections. Most of the latter are due to dust, inhaled where only the main access road has been paved. "In the dry season the dust remains in the air. In the wet season, mud prevails. We shouldn't complain. Only I lost a kid lately. He got a terrible headache. They said it was an embolism of the brain. He just died."

* * *

Dominga: "My husband died some time ago. We called on all the hospitals when he got sick, but not one of them would take him in an ambulance. They said he had to go on his own, but he couldn't move—he was already in a coma. It seems he had a clot on the brain due to alcoholic congestion. I guess they were right, because he had drunk a lot that day."

* * *

Alconolism is very common in the *ciudades pérdidas*, as it is among most of those population groups in Mexico whose income is very low. Women such as Dominga define the addiction to alcohol as a pleasure their men enjoy. They do not perceive any fault in society as a cause of this drinking; they do not see any political or economic connection with their husbands' drunkenness. "He drinks because he likes it," they say. "It is a sickness of theirs. They like it and continue drinking."

Recently, *muchachos* (young boys) who are not from Paraje Tlacateco come here to take drugs, which in this stratum of society consists of sniffing cement or paint thinner. The women's explanations about the causes of drug addiction are similar to their accounts of alcoholism: "Someone invites them to try it and they like it. Then they just continue with the vice."

Dominga: "Burial is expensive. When my husband died, we thought of burying him there, in our home town, where the cemetery is less expensive. But to take him there cost more in the end than to leave him here. We couldn't afford it."

These women have no great expectations, they do not dream of transformation in their lives. No promises have come to them from the world around them which fire their imagination, or cause great anguish when they fail. For their children, they want the best they know, within the confines of their own ideals.

They all feel that their environment has improved over the past two years, and they all associate improvement with the new water and drainage services. They know that some people from outside are trying to catch hold of any little piece of land in Paraje Tlacateco, because of those new services.

But they are all waiting for the land tenure question to be settled. Until it is, they are not allowed—though some have done so—to improve their wooden or cardboard huts. How long will they wait for the available space to be re-distributed? They do not know. On one point they are all convinced. "It would be better," they say, "if Mr. Saldívar sold us the land." But Mr. Saldívar's intentions are still unknown, and may remain so for some time to come. □

In their own world

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On the way to improvement

In Indonesia's fast expanding cities, the *kampungs*—or neighbourhoods—are undergoing renewal. The government programme aims to build on, and strengthen, traditional ideas of mutual help or *gotong royong*. UNICEF assistance is involved. Is the idea working? A report from two *kampungs* by YULI ISMARTONO.

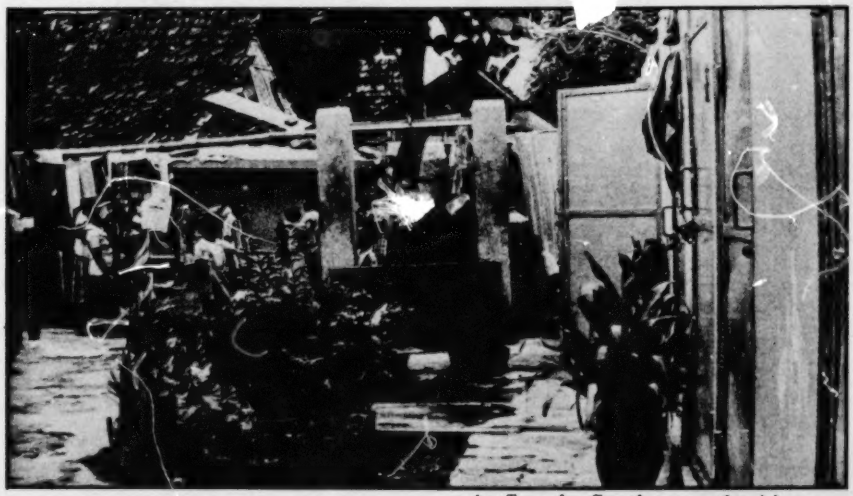
Late on the eve of August 17, Pak Muslimin, head of the neighbourhood association of Gubeng Klingsingan, could still be seen prowling about, inspecting preparations for the next day's festivities. Some men were hard at work applying the finishing touches to a new building. There were two big events to celebrate: the anniversary of Indonesia's independence, and the completion of a two-year community project. The new—or rather renovated—building is the first multi-purpose community centre in the *kampung*.

Pak Muslimin is the popularly-elected voluntary leader of the *kampung* community association, which has about 1,000 member families. *Kampungs* are unique settlements, and none of the customary labels like "slums" or "squatter settlements" can quite convey the real essence of the word.

Despite their rudimentary infrastructure, poor physical environment and general poverty, *kampungs*, which constitute 70 per cent of Indonesia's cities, accommodate a heterogenous population. Low-income street vendors live side by side with comparatively wealthy entrepreneurs. Civil servants and teachers share the public water taps with seasonal labourers and *becak*—pedicab—drivers. In fact, the majority of city dwellers, except for the very rich and the very poor, live in *kampungs*.

Yuli Ismartono is an editor of the Jakarta-based quarterly development journal Prisma.

Kampungs are more than just residential areas, they are also places of work for the street vendors, storekeepers and service men, and employees of small industries. This rich mixture of diverse socio-economic groups is made possible by a sense of inter-dependence, reinforced by the spirit of *gotong royong*—mutual aid and co-operation—therefore, are not only accepted as a reality, but also a desirable form of urban settlement in Indonesia. The government's policy on *kampungs* in the overall urban development plan has been to maintain and improve them, rather than demolish and replace them with new settlements.



Residents of Jaglan Beji help themselves to new public toilet facilities installed by the Yogyakarta authorities. Photo: Ismartono

A new community centre in Surabaya

The construction of the community centre in Gubeng Klingsingan is part of the people's own contribution within the nationwide Kampung Improvement Programmes (KIP), launched by the government in the early seventies. Initially suspicious of these programmes, *kampung* residents in Surabaya, Indonesia's second largest city, not only came to accept these improvements but increasingly began to clamour for more.

At first the Surabaya authorities proposed that improvements, such as the paving of roads and walkways and the construction of drains and canals, be implemented through *swadaya* (self-help), and equipment only would be provided, while the residents contributed the necessary labour. Subsequently, in order to reach the lower-income *kampungs* more rapidly, the city government, as did other major cities, accepted World Bank loans for these KIP programmes, under the terms of which the construction of roads, drains and so on must be done by

conventional contracting, not by self-help. Although the results of the self-help approach had sometimes fallen short of city planners' expectations, it was not only cheaper, but the sense of pride and achievement that resulted from the community's participation often motivated residents into embarking on other projects. They improved their own homes, built community centres, or organized social activities to improve the *kampung's* communal well-being.

The plan to build a multi-purpose community centre in Gubeng Klingsingan evolved after the basic KIP infrastructure improvement had taken place. "With the increasing activities the community was involved in, what we needed was a regular meeting place," explained Pak Muslimin. "So when UNICEF offered through its block grant programme* to assist in financing a community-generated project, the consensus of all the neighbourhoods was to renovate an old house and turn it into a community centre which everyone could enjoy."

The project took some doing. It took time to collect the funds needed to buy materials and equipment. Those unable to contribute financially gave their labour. Today a part of the centre is used as a classroom for 65 kindergarten children, while the other part houses the library and serves as a meeting place for community activities.

Participation in local activities among the families of Gubeng Klingsingan is strong, particularly since the local women's groups play an active role in social welfare projects. When public water taps were to be installed in the *kampung*, for instance, meetings among the residents were held to determine suitable locations for the taps and to consider who should be responsible for their management. Consumers currently pay Rp. 10 (US$.02) per 40 litres of water, but before these taps were installed, they had to pay at least twice as much from water vendors. A small honorarium for the household selected to manage the tap, and the costs of tap maintenance, are taken from the proceeds of the sales once the city water bills have been paid.

**UNICEF assists the government of Indonesia with a package of health and welfare services for mothers and children in poor urban areas. "Block grants" are for projects selected by the communities themselves, which help strengthen their ability to plan and organize their own services.*

Working with the women

While Pak Muslimin, who is a civil servant by profession, is busy organizing the men of this *kampung*, his wife—who is fortunately capable and willing—spends time with the women. As head of the local *Program Kesejahteraan Keluarga* group (PKK is a national programme to promote family welfare) she

The public wells in Jaglan Beji serve both as washing facilities and places to have a friendly chat. Photo: Ismartono

makes her home available twice a week for free meals to be given to malnourished under fives from low-income families.

From monthly contributions of Rp. 50 (US$.08) per household, not only is the PKK group able to implement this nutrition programme, but also to organize a beautification and sanitation campaign, as well as sports and social activities for the *kampung* youths. For their efforts, Gubeng Klingsingan, which is one of the poorer *kampungs* in Surabaya, was recently awarded second prize during the city-wide contest for best PKK programmes.

For all the progress attained by the community, Pak Muslimin feels that there is still much to be done before the *kampung* can be called ideal. "There is a great need to educate some of the residents on the importance of hygiene and clean habits. What is the use of garbage cans if trash is still thrown indiscriminately? How can people be convinced that paying Rp. 5 (US$.01) to use the public toilet facilities is better in the long run than merely using the nearby canal?" The leaders in this and other Surabaya *kampungs* are still searching for answers to these questions.

A *kampung* in Yogyakarta

As the only woman leader of a neighbourhood association in the *kampung* of Jaglan Beji in Yogyakarta city, 26-year-old Supadmi sometimes meets with derision when conducting her duties. "This is the poorest and the most densely populated neighbourhood in the *kampung*," she said. "Maybe that's why they chose me to represent them. Comparatively, I'm probably better off than most of the people here." Alongside street vendors, labourers and petty traders who compose her neighbours, her job as administrative assistant to a private consulting firm would indeed seem a better and more secure source of income. On the other hand, in a society where respect and authority come with age and marital status, Supadmi, who is single and lives with her parents and five younger brothers and sisters, must struggle to get her ideas across at neighbourhood meetings.

Although parts of Jaglan Beji have undergone physical improvement, other facilities are still sorely lacking. KIP in Yogyakarta moves at a somewhat slower pace than in Surabaya, partly due to the city's reluctance to use international loans and its reliance instead on limited local budgets and nationally allocated funds. Perhaps this explains the difference in the approaches *kampung* improvement between the two cities. Whereas in Surabaya the physical upgrading takes place before social improvement, the reverse is often the case in Yogyakarta.

The spirit of *gotong royong*, however, is as prevalent in this Yogyakarta *kampung* as it is elsewhere. In spite of Supadmi's difficulties with her neighbours, she has succeeded in convincing them of the need to share in the maintenance of communal toilet facilities and public wells. And, with block grant assistance ▷

from UNICEF for equipment, the community has managed some sporting achievements. Three times in a row they have won table tennis and badminton tournaments held yearly in the *kampung*. "We may lack money, but given the opportunity we showed we could do as well as others," said Supadmi.

She is also proud that her neighbourhood, poor as it is, has organized the only funeral association in the whole district. Such an association assists bereaved families by providing Rp. 10,000 (US$15) and helping out with burial arrangements. To cover these expenses, all families are asked to contribute a minimum of Rp. 50 each month.

Lately Supadmi and fellow heads of neighbourhoods have expressed concern over the increasing crime rate in the *kampung*. They meet monthly to discuss this problem and the possibility of sharing the task of maintaining neighbourhood security. But more than this, she would like to have assistance for literacy training and to develop more income-generating activities that would give the local youths something useful and interesting to do: welding courses for boys and sewing and typing classes for girls. "We have the teachers, but we need to be organized, and we need help to get the necessary equipment," Supadmi said.

Although the positive results of KIP can be clearly observed, there are many questions that still remain to be answered. For instance, once a *kampung* has undergone improvement, rents and property values increase. What impact does this have on the residents? Are the low-income residents driven out by higher rents and poorer property owners pressured to sell?

From a cultural point of view, there is concern that improvement tends to breed individualism. There is the possibility that the traditional community spirit will be gradually eroded, especially when the work is done by outside contractors. This is why effective delivery of community-based social services and economic development is deemed important. Not only does it provide services to needy people, but it increases the community's own capacity to organize and manage its own development. In this way the physical improvements in the *kampungs* remain accessible to all the residents, poor as well as better-off. All can raise their children in healthy, orderly and harmonious surroundings. □

India

Women out to save the trees

It is the women who are really interested in protecting the trees, and not the men, as witnessed by the experience in many Himalayan villages. Men are more interested in money, and are ready to sell the village forests. But the women, who have to collect the fuel and fodder, are struggling against their own men to protect their "wealth." By GOPA JOSHI.

In the remote Himalayan village of Dungri-Paitoali, the men are extremely displeased. They wanted to sell off the nearby forest to the state government, so that it could be converted into a potato farm. But they have been thwarted in their efforts by their own women. If the forest had been cut, the women would have had to spend several more hours walking at least another five kilometres every day to fetch their daily fuel and fodder.

The men do not collect these daily necessities. They are annoyed that the women's protests have denied the village the sought-after benefits of progress—a motorable road, a bus connection, a high school and a health clinic—which the potato farm would probably have brought along. For the women however, the forest was more important.

This incident reinforces the need to rethink several male notions about the management of resources in general, and forests in particular. In the management of village resources, it is male decision-making that generally matters. But there are several resources—like forests and trees—that are of greater concern to women.

The Dongri-Paitoali village is situated at a height of 6,500 feet in the catchment area of the Pindar river in Chamoli district. It is one of the biggest villages of the region but is not touched by a motorable road. The nearest bus station is nine kilometres away. From there it is a steep climb to the village and the hill slopes on the way are totally denuded of trees.

In 1978, the state government's horticulture department negotiated with the *Panchayat* (the village council) for the acquisition of 10 hectares of land to set up a potato seed farm. The villagers were led to believe that the men would get employment on the farm and, with its construction, the village would get a motor road, electricity, hospital and its primary school would be upgraded to a high school.

However, the contractor in charge of constructing the potato farm encircled the entire 50 hectares of the village forest with a boundary wall. Secondly, he brought in 80 per cent of his labour from Nepal, thus denying jobs to the local men.

The women were going to become the worst sufferers of this type of development. The boundary wall left no entrance for their cattle and no alternative place to collect fuel and fodder. Naturally, they objected to this forest-grabbing.

The contractor, reportedly related to the head of the village, was abusive and threatened them with dire consequences. Dungari-Paitoali is so remote that these women were even unaware of the famous Chipko Movement (the movement to hug trees against deforestation) of the local people in the same district.

They also did not know that oak trees are protected species and cannot be felled without the permission of the Forest Department. Their forest was mainly an oak forest.

Gopa Joshi is a research scholar in Delhi University. Copyright: Centre for Science and Environment 1982.

Enraged but also terrified, the women sought outside help. A Chipko activist came to know about the women's protests and visited the village, and a women's organisation—Mahila Mangal Dal—was set up.

Realising the sensitiveness of the situation, the district administrators also visited the village and set up an enquiry committee consisting of the village people, Chipko activists like Mr. Chandi Prasad Bhatt and Mr. Ramesh Pahari, and local bureaucrats. The committee concluded that the forest land already cleared for the farm, plus two more hectares, may be given to the horticulture department, but the remaining forest area containing 90 per cent of the oak trees should not be cut. Thus, the women succeeded in saving a major portion of their forest.

The men did not like it

However, influential male villagers, including the village head, did not like the women's success. They thought that this had hampered important development opportunities. They first wrote letters to Chipko activists accusing them of instigating their women and warned them not to enter the village in future. Then they turned the question of deforestation into a men versus women issue, and warned the villagers against accepting the leadership of women.

One old man vehemently argued that all men were in favour of getting the motor-road and were not bothered about protecting the forest. Even the sons of these women, most of whom work in the army, preferred a motor-road to the village forest, though none seemed to know that the horticulture department could not provide a motor-road or other facilities to the village. Another man complained that his wife no longer prepared tea for him.

On the day of the agreement between the villagers and the horticulture department, a hut near the farm reportedly caught fire. The men used this event to frighten the poorer villagers and accused the women of setting fire to the hut. The officials threatened them with warrants of arrest which they would, however, ignore if the women withdrew their movement and apologised.

The men also tried to isolate the women leaders from the rest of the villagers by spreading rumours. For example, a rumour spread that the village had been blacklisted because of the women's movement. As a result, its youth would not be recruited to the army nor would the village be supplied essentials like salt and kerosene.

"The women of Dungari-Paitoli are challenging the right of men to be the sole decision-makers on community affairs."

These rumours frightened many villagers. Many men began to blame their wives and mothers for bringing these problems to the village. When we visited the village in 1979, we found the women terribly frightened but still not prepared to withdraw the movement.

The Dungari-Paitoali women have raised some pertinent issues. They are effectively saying that since it is they who are directly affected by deforestation, they should have the primary right to manage their forests. And they are also challenging the right of men to be the sole decision-makers on community affairs.

In fact, it is women who have really been the main activists in the famous Chipko Movement. Even before the Dungari-Paitoali incident, women from many villages resorted to action in protecting forests.

The first major incident in the Chipko Movement took place in March 1974 when 27 women of Reni village successfully protected the local forest from the axes of the contractor. In this incident, the 27 women had to confront 60 men, many drunk and armed. These people used various tactics to scare the women who, nonetheless, calmly faced all threats, warnings and humiliations.

Later, the Reni investigation committee set up by the Uttar Pradesh government also pointed out that it was wrong to cut the forest even from a scientific point of view. This incident made the Chipko Movement widely known to the outside world. In 1978, about 30 women of Bhyunder village, which is situated just before the Valley of Flowers, protected their forest from the axes of their own relatives from a neighbouring village. The men were going to cut the trees to meet the fuel needs of the 250,000 odd pilgrims visiting the famous Badrinath Temple. As the men of the Bhyunder village had refused to cut the trees, the Forest Department had given the contract to a co-operative society in a neighbouring village. But the stiff resistance of the women saved the forest.

The material existence of the Himalayan villages is linked with the forests. In certain areas, women have to walk as much as 20 kilometres to collect fuel and fodder. Because of the absence of job opportunities locally, the men migrate to the plains. The women are left behind to do cultivation and to tend the cattle, apart from doing the housework.

The problem of collecting fuel and fodder has become increasingly worse with the indiscriminate destruction of forests. Since the men do not have to go out to collect fuel and fodder, they have never been very eager to co-operate in saving the forests. They are more interested in making money, even if it comes from falling trees. But for the women the forests are their wealth. □

Fuelling needs

Fuel—for cooking and for keeping warm—is one of life's essentials, whether for those who pay a bill each month for the convenience of throwing a switch, or for those who rely on gathering firewood, animal dung, agricultural wastes, and other "natural" materials for their fuel requirements.

In the rural parts of the Third World, the task of collecting the family's fuel supply falls to the women and their helpers, the children. Not only is this onerous and time-consuming, but in the face of rising population pressure in fertile areas, and increasing deforestation and soil erosion in many parts of the world, it is becoming more difficult. In some places, where fuel used to be free, it has become so scarce as to command a price which represents a heavy drain on people's scant cash income. And as women are the fuel gatherers, they must somehow find the money to pay.

The problem of obtaining adequate quantities of domestic fuel in rural areas in the developing world is sometimes referred to as "the other energy crisis." The response has been to promote the planting of quick-growing trees, and to experiment with, and invest in, improvements to existing traditional cooking and heating systems, as well as low-cost alternatives. Popular "alternatives" include the use of solar and wind power; biogas from animal wastes; hydro, bicycle and animal power. In some cases the technology is less of a problem than its social acceptability. In others, the technology is still uncompetitive with the alternatives available.

UNICEF, following the UN-sponsored Conference on New and Renewable Sources of Energy in August 1981, is increasing its involvement in activities related to the domestic energy needs of mothers and children. Pilot projects to develop local biogas plants are being supported in India, Peru and Turkey. UNICEF is also involved, particularly through the Village Technology Unit in Kenya, with the design and testing of improved versions of wood-burning and charcoal stoves. □

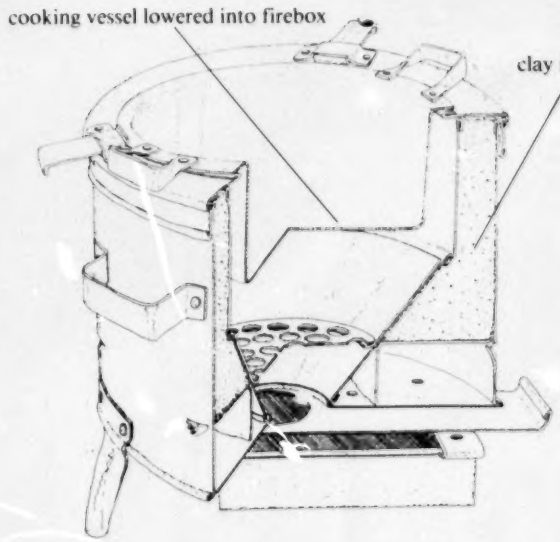
Stoves

Firewood accounts for 85 per cent of the woodfuel use in developing countries. In the urban areas, however, where no commercial supply of energy is available, charcoal is used almost exclusively, and for the poor, is often the only fuel available. In Bujumbura, the capital of Burundi, for example, as much as 50 per cent of a family's income is spent on charcoal.

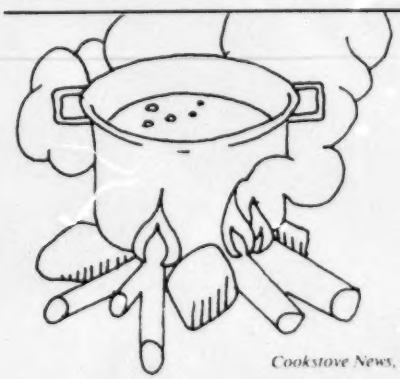
In all urban areas of East Africa, metal charcoal stoves for cooking and heating are cheaply produced and sold in the markets. They are usually made by local tinsmiths from scrap metal. However, they are often inefficient in terms of fuel consumption.

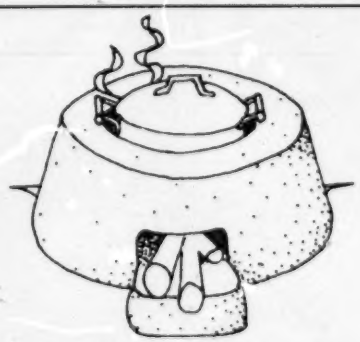
In 1981 UNICEF, with the co-operation of local craftsmen, designed and produced a variation of the familiar charcoal-burning stove or *jiko* (see right) which met the following criteria: 1) the design was based on existing charcoal stove technology; 2) the product was able to be constructed by existing makers with readily available materials; 3) the stove offered fuel saving benefits; 4) it could be competitively priced against models currently sold in the market place.

Improved "umeme" charcoal *jiko*



UNICEF Appropriate Technology Section, Nairobi





Cookstove News, Vol. 1, No. 1; Aprovecho Institute, Oregon.

The traditional method of cooking in many parts of the rural developing world is on a fire built between three stones (far left). In March 1980 concern at growing desertification in Senegal prompted USAID and CERER to begin the promotion of fuel-saving closed cooking stoves. A type of stove called **Ban ak Suuf** (sand and clay) was developed (near left), whose fuel savings amount to around 40%. Nearly 1,000 stoves have been made by local potters and are in daily use.

Biogas

Biogas plants, which turn animal and crop wastes into methane for cooking fuel and fertilizer, are being chiefly tried out in China, India and Pakistan. China has 7 million biogas digesters in use.

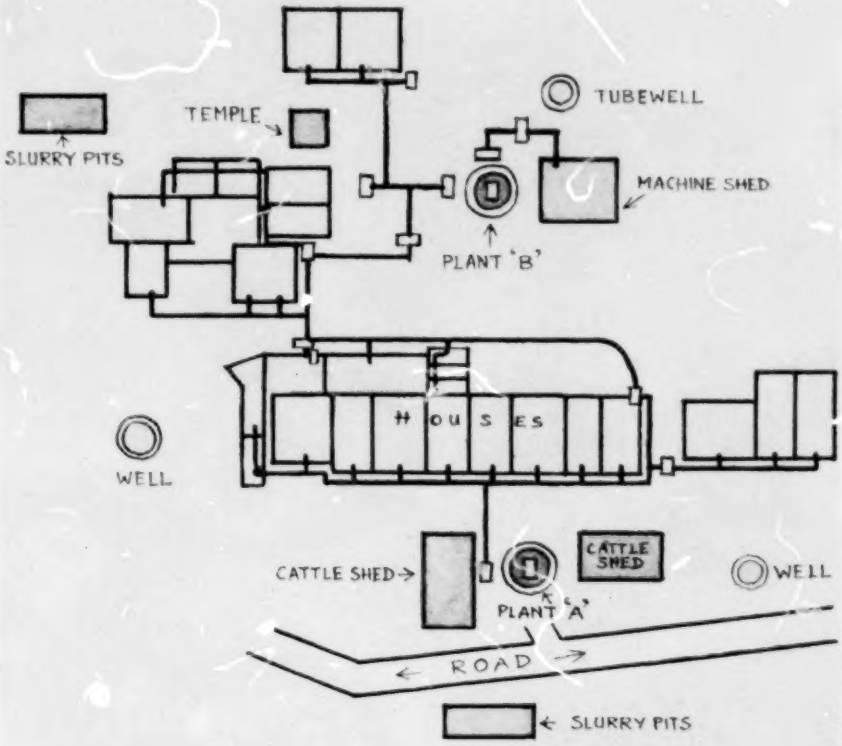
In India, a UNICEF-assisted pilot community biogas project in the village of Fateh-Singh-Ka-Purwa in Etawah district, Uttar Pradesh, is the first of its kind in the country. Purwa is a typical village, with a medium-sized community of 27 families. The two community biogas plants supply *gobar*, or cowdung, gas for cooking, and for household and street lighting, as well as for the operation of farm machinery such as a powered thresher, chaff cutter for preparing animal fodder, a grinding mill, and a tube-well. Within a short time, the village's use and provision of energy was dramatically transformed.

The Planning Research and Action Division of the State Planning Institute, Lucknow, with UNICEF assistance totalling US$25,000 worked with the local villagers to set up the plants. The villagers contributed the land, and agreed to provide the cowdung. They were told that, in return for their cowdung, they would receive not only gas but slurry for fertilizer. They co-operated willingly to begin with, and reaped the benefits.

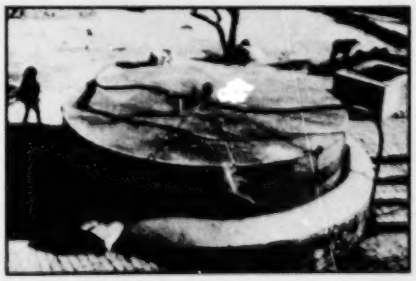
Most of the women were pleased to be relieved of the task of making cowdung cakes. But there has been some resistance to the changes required in cooking habits. Gas came on at specific hours in the day, which restricted the hours of cooking; also gas cooks more quickly, producing different results in familiar dishes. Recently, the production level of the gas has gone down because many cows died in a drought.

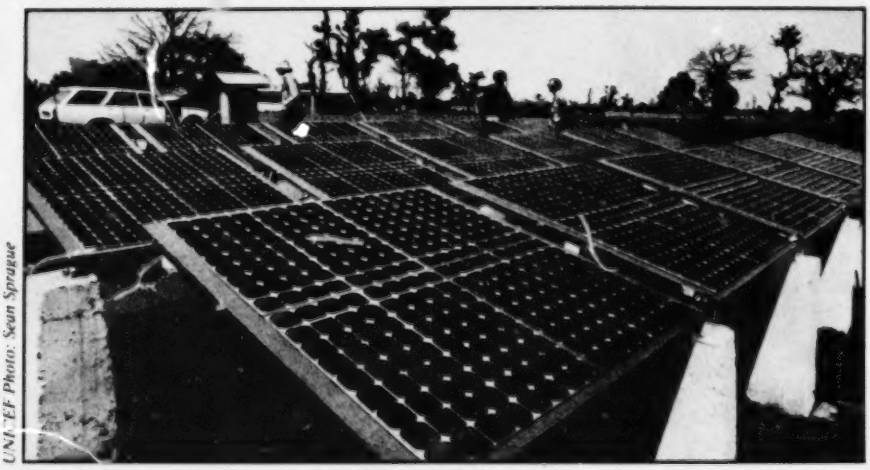
The chief cause of problems was not the technology, but the failure to maintain the villagers' involvement and motivation in the plants' successful utilization.

The biogas plants in Purwa



UNICEF New Delhi





UNICEF Photo: Sean Sprague

Solar energy

Solar water heaters, driers and kilns; solar refrigeration and distillation plants; and photovoltaic systems for pumping and lighting are becoming relatively familiar appropriate technology pilot schemes in different parts of the developing world.

The solar voltaic panel (see left) is being extensively field-tested by the French government and commercial companies in West Africa. This one, in Upper Volta, harnesses the energy of the sun to pump safe water for domestic supply and for the irrigation of land under cultivation.

For every child a tree

At Nkitto primary school in the heart of Maasailand, Kenya, the schoolchildren are planting a green belt of trees across the savannah. They are joining a new campaign—launched by the United Nations Environment Programme, as part of the celebrations of the 10th anniversary of the Stockholm Environment Conference—to encourage children to nuture and appreciate their environment. By GRAHAM HANCOCK.

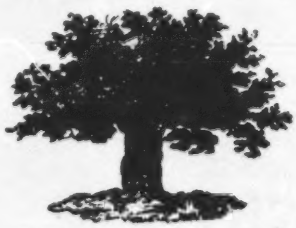
For outsiders, but also for Kenyan urbanites who have experienced little else but city life, the contrast between the bustling thoroughfares of the capital, Nairobi, and the silent emptiness of the savannah grasslands that surround it could not be more complete. A car journey of little more than an hour, covering perhaps 70 kilometres of road and track, is also a journey through time, involving a sudden swing from the late twentieth century into an older world that has known almost no technological or economic change for thousands of years.

There are other surprises too. Perhaps the most disturbing is the realization that Nairobi's green and well-watered parks planted with colourful flame trees and jacarandas have created an illusion of fertility in a land that is in fact four-fifths desert or near desert. In the dry season, the rolling savannah pales to a faded khaki brown. The grass-stalks become brittle and crumble at a touch.

There is no other shade under the breathless skies than the shelters which man has made: the simple mud and straw *manyattas* of the Maasai pastoralists, with low domed roofs that blend invisibly into the selling contours of the earth; the occasional storage warehouses or government building; and sometimes a school to which Maasai children may walk as much as eight kilometres each morning in search of education.

One such school is Nkitto Primary which stands, literally, in the middle of nowhere, on a low rise overlooking the endless vistas of the plains. The school boasts a single classroom and an administrative office, both housed in a long barn-like building with wooden walls and a corrugated iron roof.

The sixty pupils, both boys and girls, are quiet, well-behaved and respectful of authority. Their headmaster, himself a Maasai, tackles his job and his responsibilities with an intense and charming seriousness. It would be difficult to find anywhere in the world a more homely group of people in a more traditional setting than this. Yet in Maasai terms dramatic things are happening at Nkitto.



A green belt across the savannah

Recently the pupils decided to break with pastoralist tradition by planting trees all the way around the school and by participating in the laying down of a five-kilometre green belt across the savannah. With help from the National Council of Women in Kenya, and funds for irrigation from the International Federation of Business and Professional Women, several different tree types are to be planted: banana trees for food, acacia trees for soil retention and for firewood, and jacarandas for shade.

A year from now more than a thousand trees will be in place. The first of these, a banana seedling, was planted in January by American actress Cicely Tyson, during a tour that she was making in Kenya. The ceremony that surrounded the event also launched a major new campaign of the United Nations Environment Programme (UNEP) called "For Every Child a Tree."

The campaign is one of a number of projects intended to mark the 10th anniversary of the 1972 Stockholm Conference on the Human Environment at which 113 nations pledged to protect our earth for "present and future generations," and at which UNEP was established. The distinguishing feature of "For Every Child a Tree" is that it is oriented towards children and youth.

Comments Mairuth Sarsfield, who is organizing the campaign from UNEP's Nairobi headquarters: "We hope to generate in children an interest in the problem of the world's rapidly disappearing trees and forests and the possibilities of reforestation. "For Every Child a Tree" aims to help children to understand what is actually going on in the world about them; an awareness that must be created in children for they are the leaders of tomorrow who will shape and influence our world for future generations."

Mairuth Sarsfield feels that the campaign will help children learn to appreciate the essential role trees play in balancing

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our ecosystem. "A child's mind flows with a never-ending stream of questions about the world around him. Why are trees important? Why are they essential to our survival? These questions need answers. Trees are the lungs of the world giving us clean air to breathe. They also provide man with fuel, fodder, food and fibre, balancing his needs in co-operation with nature. But the world's forests are growing smaller and smaller every year, distorting the delicate ecological balance of the soil and rendering countless numbers of birds, animals and insects homeless."

Trees as symbols

Mairuth Sarsfield believes that trees are potent symbols, capable of taking root in youthful imaginations as well as in the soil. Trees are fun—fun to climb or swing from, fun to explore, fun to sit under on a sunny day. For these reasons it is not difficult to persuade children of the value of trees and, once this value is accepted, to go on to create an awareness of the environment as a whole.

As symbols, trees are also international, transcending all linguistic and cultural barriers and equally valid to all human beings. The UNEP campaign, therefore, aims to create a personal link between children and trees the world over and, by so doing, to ensure that the next generation of adults will be conscious of the complex links between all living things.

Like most good ideas, "For Every Child a Tree" is essentially simple. Part of the strategy so far has been to persuade a number of popular illustrators of childrens' books to produce posters on tree themes free of charge. Contributors include Denmark's Bjorn Wiinblad, Czechoslovakia's Trinka Puppet Studio and a famous American illustrator, Eric Carle. Top artists from China, Lesotho, Papua New Guinea, Haiti, Switzerland and Japan have also contributed. A total of 50,000 posters will be printed and distributed to 5,000 libraries all over the world. The libraries will each also receive ▷

One woman's energy crisis

Ngoto Julius, "mother of Julius," lives in the plains that stretch south from Nairobi. She cannot remember a year when the rains were so good. Maasailand is green, she says. But to the untrained eye, the land is dry and sparse, a brown and gold expanse of wispy sun-bleached grass and acacia trees no taller than your thigh.

If those little trees grow any bigger, according to Ngoto Julius, people will cut them down. They need the thorny brush to fence their *bomas*—homesteads—to keep the cows in and the lions out.

ICEF 9053/Black

In these rolling grasslands the people live surrounded by a deforestation crisis of their own making. But that is not how they perceive it. Farmers encroach constantly on their traditional grazing grounds. Drought has taken a recent toll. Ngoto Julius says there are far more people than there used to be.

Still the Maasai cling to their ancient ways. But the ecological pincers have forced them into the cash economy, obliging them to buy what used to be "free": food, water, fuel, utensils, clothes, building materials. Ngoto Julius does not perceive as a problem the fact that people cut down the trees when they are only as tall as your thigh to fence their *bomas*. Her problem, she says, is money—money, money, money—to pay for food, and wood for the fire, and kerosene for the lamp, and other essentials.

The drought of 1976 claimed all her husband's cows but one. So now, instead of moving on in the traditional way, the family stays in the same *boma*. Ngoto Julius has eight children, starting with Julius a teenager, ending with a new baby at the breast.

Ngoto Julius is tall, and aloof, a woman of some importance around here. She has taken considerable trouble with her house. A Maasai house, or *manyatta*, is a low, oblong hut whose main supports are the stoutest tree-trunks to be found (about two inches radius), roofed with woven saplings and plaster-clad all over with mud and dung. It is windowless and airless and almost completely dark.

The *manyatta's* curious design must stem partly from the need to conserve fuel. Once the sun has set, the temperature can be distinctly cool. But with a draught-proof entrance and no windows, the fire quickly warms the interior. A few sticks, a little dung, some kerosene to start the flames going, and the time it takes to heat milk and make maizemeal porridge for the evening meal, and the hut is warm enough for the night.

Similarly, the traditional diet made few demands on fuel: a gourd of milk and a little blood require no cooking. Only on feast days when a goat or cow was slaughtered would firewood have been necessary. But nowadays almost all Maasai people eat maizemeal porridge, the normal diet of farmers. With a change in diet has come a greater dependence on fuel for cooking. Even so, Ngoto Julius is very sparing in her use of firewood.

It takes many hours, she says, across the plain to carry it from the nearest wooded place. So when women come from there selling it, she buys it if she can for five shillings (70¢) a load. Where does she get the money? If she has no money, she brews *pombe*, a murky alcoholic drink made from fermented millet. Or *changaa*—raw spirits. Then she runs a "bar"—as she is in fact doing right now, selling to old men, drinking quietly in the deep shadows of the *manyatta*. It is of course illegal, so that if the police comes she will hide everything.

Ngoto Julius, her husband, her co-wife and their joint families will not be moving on for a long time. In spite of her bearing and resourcefulness, her methods of catering for her family are hand to mouth. She cannot estimate her income, the proportion she spends on tea or sugar, on kerosene or firewood. She does not count the number of times she buys water from the nearby shop when she is too late to go to the river. But she does know that all the prices are rising. In that sense, even Ngoto Julius feels the shock waves of world economic recession. The crisis in which she finds herself—a crisis of shrinking grazing, smaller herds, fewer trees, and growing needs—spells one thing only to Ngoto Julius: poverty. (M.B.) □

The first tree at Nkitto Primary School—a banana seedling—was planted by American actress Cicely Tyson during a tour she made of Kenya. Photo: Sandagar/UNEP

an information kit on deforestation, a bibliography and copies of a special UNEP booklet that provides useful information about trees and suggests ideas for action that parents and children might wish to take up.

Trees as birthday presents

Libraries are only one focus of the campaign. To mark the tenth anniversary of the Stockholm Conference governments are being asked to give trees as birthday presents to all children born on 5 June 1982. Each child will then be encouraged to regard his or her tree as a personal responsibility and to nurture its growth. Response to this extension of the national tree planting day idea already familiar in many countries have been encouraging. To date, four Royal Households, and six Heads of State have offered to act as patrons for their local "For Every Child a Tree" ceremony.

A number of nations have pledged support during 1982 for the planting of trees in developing countries that suffer from shortages of seedlings. Denmark has offered seedlings and technical assistance to Botswana and Lesotho; Czechoslovakia will aid Ethiopia; India will aid Kenya; and Canada has offered assistance to Haiti. With a nice flourish, China has promised to launch a nationwide tree-planting campaign under which every able-bodied Chinese citizen over the age of eleven will be required to plant five trees in 1982.

Another related idea has the aim of raising funds for reforestation projects. Parents are being asked to celebrate their children's birthdays by "planting a tree in the Third World" through sending a US$10 cheque to the Environment Liaison Centre in Nairobi. The ELC, which was established in 1974 to liaise between non-governmental organizations and UNEP, will pass on all the money collected to about 20 selected NGO's working in reforestation in Africa, Asia and Latin America.

"Trees last a lifetime"

According to UNEP, the great beauty of the "birthday tree" idea—whether these trees are given to children by governments, or planted in the Third World—is that an enduring personal link is created. "Cake lasts five minutes," observes one of the campaigners, "toys last a month, but trees last for a lifetime."

The banana seedling planted outside Nkitto Primary School on Kenya's Maasai grasslands in January 1982 is a symbol of this point of view—a commitment to a caring idea of the future rather than an ephemeral gesture. As Cicely Tyson told the schoolchildren at Nkitto: "On my way out here, driving through that dry treeless plain, I kept thinking of the fact that I was going to plant a tree and I kept thinking, that tree is actually going to grow and grow and grow...". □

Birthday donations to plant a tree in the Third World should be sent to For Every Child a Tree, Environment Liaison Centre, P.O. Box 72461, Nairobi, Kenya, E. Africa.

If you had the money, would you buy this cart?

Small is not always beautiful, as the enthusiasts for appropriate technology have wryly, on occasion, had to admit. When a new "appropriate" technology design has to be "sold" to people, it is a clear sign that it may actually be inappropriate. Sometimes the "experts" overlook the expert views of the people themselves about what is, or is not, appropriate to their needs. Some reflections by TARZIE VITTACHI.

E.F. Schumacher founded his Intermediate Technology Development Group long before he wrote "Small is Beautiful" and became famous. It was built on the principle, very simply stated, that it is silly to transfer a million dollar technology to a hundred dollar economy; a thousand dollar technology would be more affordable, more relevant to needs and capacities, and more productive. In an essay he wrote for a collection published in 1974 entitled "The Culture of Poverty," he added another important idea to the world-wide discussion he had provoked about the "size," cost and complexity of technology: "You cannot import a technology without also importing the culture from which it came."

Schumacher was not just a miniaturizer of gadgets. His first concern was the human being as a spiritual being and a social being, and he was horrified to observe that the machine and the management behind it were pigmifying Man.

He was invited by friends in India, Zambia and other developing countries to expound his ideas. Almost everywhere he encountered two kinds of reception: admiration for his ideas, that they were simple and true, and scorn for their being "simplistic" (the familiar "We are simple, they are simplistic" syndrome) and also dangerous. His critics even accused him of being "neo-colonialist"—trying to keep the poor world poor by foisting second-rate technology on them while the rich world monopolized the best. The vehemence of the attacks shook him at first, enough to make him change the term "Intermediate Technology" to "Appropriate Technology," because he was sensitive to the power of semantic nuance and thought that a word free of the connotations of Eugene Rostow's "Stages of Growth" theory might draw the venom.

Tarzie Vittachi is a distinguished Sri Lankan journalist, former Director of Information at UNFPA, currently UNICEF's Deputy Executive Director.

"Development" was business as usual

It didn't. It took him a while to realise that it was not a matter of words but of class. The new ruling classes of ex-colonial countries were steeped in the culture, mentality and values of their former masters and thought of "development" as business as usual, under a new indigenous management.

The centralization of political and financial authority; industrialization and urbanization; bureaucrats in control of almost every form of transaction; continued reliance on import-export trade; the struggle for a bigger share in international markets; and unbridled consumerism were regarded as the proper attributes and methods of modernization and national development. High dams, high-rise buildings, and highways, later embellished by over-passes, underpasses, flyovers and spaghetti-junctions (not called noodle-junctions as one might have expected) had become the grand symbols of the planners and administrators who lived the high-life—a lifestyle which the caustic pen of Mervyn de Silva, a Sri Lankan journalist, has felicitously labelled "Nescafe Society." The bigger the better, the more the merrier, was the development ethic of the fifties and early sixties.

The international lending institutions, and the development agencies supported those trends on the ground that they were only responding to the sovereign wishes of the member nations. The reality was that they themselves were largely staffed by nationals of the same ruling elites, most of whom could not think any differently. And, as for the industrialized nations whose expertise, values and technology were being imported, aid business was damned good business. So the orgy of modernization spread wider and wider, and the debts soared astronomically, while the majority of the people became poorer and poorer, the slums became more and more purulent, the joblessness, hopelessness and despair became endemic. The only remedy proposed was more of the same.

"We can afford a little pollution"

Against this background what chance was there for Intermediate or Appropriate Technology to make any headway? Precious little. It was received with the same cynicism that motivated the response from a developing country's delegation to the U.N. Conference on the Human Environment: "We can afford a little pollution." And so, the forests of the Philippines, Haiti and Indonesia were

"It is not only a question of smaller technology, but also of people's control over that technology." Ploughing innovations in Ecuador. ICEF 8834/Wolff

denuded for lumber exports. (The slash-and-burn peasants eking out an existence were assigned the blame. What alternative source of energy was available to them?). The vulnerability of poor countries to market mechanisms controlled by the rich increased, and their dependency on the technological giants abroad became more and more inextricable.

When all seemed lost for the cause of people-sized innovation, something happened to make people take another look at Schumacher's ideas. "Small is Beautiful" (a title which shrewdly rode on the wave of "Black is beautiful"), first loftily ignored by the influential book critics, was seized by the young people in the West who were looking for new ideas to rekindle the social revolution they had brought about in the sixties. It became an "underground" best-seller. Young politicians like Governor Gerry Brown and later even President Carter, "took up" Schumacher and young academics in the United States and Europe all responded, not only to his ideas, but also to the "spiritual" values underlying them which took the crassness out of business and gave it a human meaning.

As always happens, once ideas and their authors have been accepted by powerful people in rich countries, they attain a respectability among their counterparts in the poor. The effect of soaring oil prices and of capital goods imported from the West, hastened the turn-about and provided the pragmatic basis for a change of mind about an appropriate technology. With funds made available by ministries concerned with village development, supplemented by grants from foundations and bilateral funding agencies, new institutes were established in many developing countries to pursue the possibilities of producing smaller, more capable and more affordable artefacts to meet development needs in the villages.

Dr. Amulia Reddy of India, who has been developing such ideas simultaneously with Schumacher rather than as a follower, was critical of ideas of the Intermediate Technology Development Group not on the ground that they were extrinsically wrong, but because they were based on "alien" political assumptions. "Schumacher is pleading for a smaller capitalism," Reddy once said to me. "In our hierarchical societies it is not only a question of smaller technology, but also of people's control of that technology." He offered as evidence the development of small water pumps in South India which are made locally but are inaccessible to small farmers who have no cash nor access to the credit needed to buy even the cheapest models. Technological appropriateness is therefore not only a matter of introducing new gadgets into the village, but of equity, of introducing new systems of land-tenure, land use, banking, cooperative ownership, management, maintenance of equipment and, eventually, of the apportionment of the produce for local use or sale.

Similar ideas about the need for appropriate structural change to go along with appropriate technology and, indeed to stimulate it, are now being studied by many groups. But, unfortunately, residual colonial values and approaches continue to predominate. The experts in appropriate technology at the centre of administrative authority, the capital city, presume to know what the villagers need, and devise technology to meet that need. It is then foisted on prospective customers who are only bemused by the new contraption because firstly it is way beyond their means and secondly it has nothing to do with their own perceptions of need.

I came across a memorable instance of this in a village in Sri Lanka. A group of villagers stood surrounding a curious object, their faces broken by disbelief. It was the prototype of a new, improved bullock cart. I parked the small Japanese car I was driving and pushed through the throng to take a close look at the object of their bewilderment. it was a bullock cart designed, according to the plaque on it, by the Industrial Development Board. Price, 6,000 Rupees. (US $458). It had rubber tyres, unusually longer bars and a short yoke, an undercarriage of heavy truck shock absorbers, and wheels close-fitted to the axle, evidently to prevent excessive give. It was designed to make life easier for the bullock, easier on its neck, easier to draw.

I asked: "Have any of you bought this thing?"

"You must be mad," the man next to me replied. In Sri Lanka when someone flings the charge of insanity at you it is not meant to be insulting. It is just an expression of an unwillingness to suspend disbelief.

"Why's that?" I asked.

"You think any one of us can afford 6,000 Rupees to buy a bullock cart?" the man said in tones which are used to respond to all "gentlemen" who have come from Colombo to preach some new gospel.

I asked a hypothetical question. "Supposing I gave you 6,000 Rupees, would you buy this cart?"

The man said: "If you gave me 6,000 Rupees I would try to borrow 6,000 more and make an offer for your car."

That "appropriate technology" was standing between the man and his perception of need. He did not want an improved bullock cart, he wanted to get out of the bullock-cart age which he and his

grandfather had been assigned to by class economics. If my car was appropriate for me to use in spite of the high price of petrol, and the "international" community's concern about non-renewable energy resources, etc., why was it inappropriate for him to aspire to a car?

The worthies who had designed the new improved bullock cart had never troubled to ask the people for whose benefit they were supposed to be working what they themselves thought was appropriate for them. It has never occurred to them because they already knew.

Insensitive—and dangerous

I saw the same kind of insensitive—and in this case dangerous—nonsense practised in an atoll nation. To reduce the spread of bowel disease caused by faecal contamination, the experts had begun a campaign to stop people from using the beaches and to get them to build and use pit latrines instead. The people—thank heavens—decided to ignore the advice. If they had followed it, they would have polluted the entire water table which was only two or three feet below the surface.

There are also many appropriate technologists busy designing new model kerosene oil and wick lamps for villagers who look up at the giant pylons straddling their fields and homes carrying electricity from the high dams to the capital cities where the oil lamp age ended 50 years ago, and curse the fate which has condemned them to live in the past, seemingly for ever.

But this is not to suggest that Schumacher and the appropriate technology movement he stimulated were mistaken. It is just that those ideas are often poorly understood and often misapplied. The clearest sign of the inappropriateness of a design is that it has to be "sold" to the people. When they have to be persuaded that they need a new technology, it suggests that they need something else because they are expert in survival and regeneration against very long odds. The experts on industrial development boards can indeed serve valuable technical and supply functions if they would talk *with* rather than *at* the people and respond with their expertise to needs and priorities as perceived by the villagers. Listening to and responding to the message from the village is the essential first step to avoid irrelevance.

The success so far achieved by appropriate technology—such as the widespread recourse to the development of bio-gas energy in China and in parts of South India has been largely due to the active participation of people in the entire cycle of consultation, production, distribution and use. The administrative authorities on their part have coordinated access to credit, supplied the technical advice and the hardware to go with it, arbitrated the inevitable disputes and, above all, have seen to it that the powerful people in the village do not muscle in to wrest monopoly control over the process.

Making appropriate technology work is a task demanding ceaseless sensitivity, true humility, diligence and the recognition that the introduction of a piece of technology into a community touches everybody at all points in their lives. A viable community is a very fragile thing.

Schumacher once talked to me nostalgically about his first automobile—a Model T Ford he bought for 45 dollars—which he drove twice across the United States without ever having to take it to a garage for repairs. He repaired everything himself not because he was a mechanical expert, he assured me, but because the car had been built simply enough not to baffle anyone by its own demands for service. The Model T was built to serve human beings and not the other way around. That, I believe, is the fundamental principle of an appropriate technology which is appropriate. □

"He did not want an improved bullock cart. He wanted to get out of the bullock cart age, where he was assigned by class economics."
ICEF 6431/Weinberger

Maria knows the difference

by Susanne Neertoft

If nine-year-old Maria had a choice between growing up in Denmark and in a developing country, she would choose Denmark, even though she knows from experience that not everything is automatically better in a rich country.

Maria was born in June 1972 in a home for poor women in the south of India. Her mother had the chance of marrying, but Maria was in the way. So she left the little girl behind. A few days later the child was handed over to a Danish medical missionary living nearby.

Maria was only one month old when the missionary, Ms. Anne Birthe Jensen, heard about her. After careful consideration she decided to offer the little Indian girl a new home. Maria left India at one-and-a-half years old to live with her new family in Stubbekoebing, a town on the Danish island of Falster.

Today Maria is in fourth class at Stubbekoebing School. She is the only non-white person in her class, but she almost never thinks about it. Maria is happy. She is fond of her friends, the school, her home, her Danish mother and her family. She wouldn't change all this for anything in the world, but now and then she dreams of other places.

To Maria the Third World is not India, though she was born there, but Africa or more precisely Nigeria. She lived there for one year, while Anne Birthe Jensen was teaching at a school in Bukulu. Maria was fond of Africa, and she gladly talks about her life there.

"It was in the Year of the Child—1979," she says and immediately asks: "Why doesn't UNICEF arrange more years for children?"

Maria thinks that the world should do more for children. She still remembers how the poor children in Bukulu grabbed the left-overs as soon as the better off children and grown-ups had finished eating.

Maria also remembers how she got angry with one of her European friends at her birthday party.

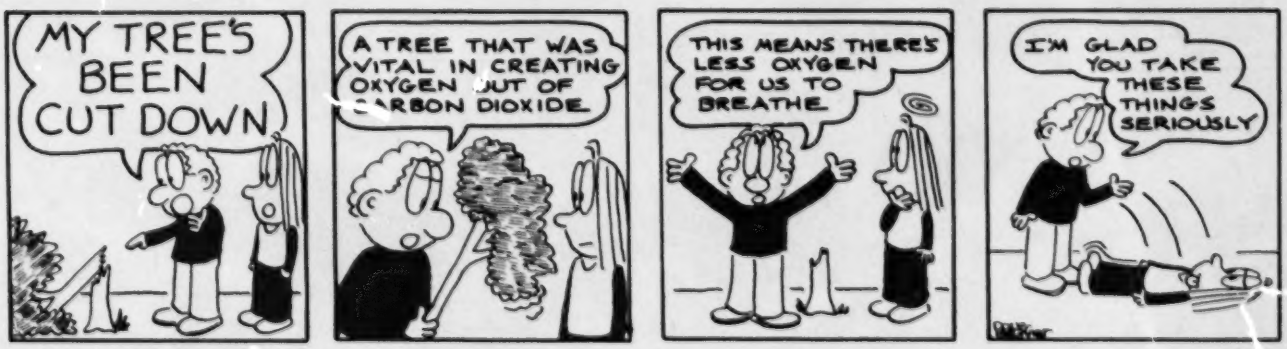
"Nenkimun, a girl from the village, brought some peanuts in a small paper bag as a birthday present to her European friend. But the friend said she didn't like peanuts. Nenkimun felt hurt," Maria says. "She had nothing else to give."

Maria has often thought about the injustices she saw, but that is not what made the greatest impression on her. She speaks most about her good experiences. "I had a friend called Okushi, which means 'a real one.' The birth attendent called her this, when Okushi's father showed how disappointed he was that she wasn't a boy. The birth attendent told him to be pleased; the child was *okushi*—a real fine and healthy child.

"Okushi was my age," Maria goes on, "but she didn't go to school. We played together every day. One evening Okushi and her father came to our house and gave me a white hen. We were supposed to eat it, but I didn't want to. I called it 'Present,' and my mother had to get another hen for supper.

"Okushi and I played well, but in a different way than I do in Denmark. Now I play with dolls and teddy bears. In Africa we didn't have toys. We played with all the things we could find—cans, sticks, leaves. We often played *'kasua,'* which means 'market.' We gathered flowers, peanuts and leaves in different piles and exchanged them for small stones. We also had snail races.

"Okushi cried a lot the day we left, and I also felt very sad," Maria tells. "All I have now," she says with a little smile, "are some photos of Okushi, a tape with the two of us singing, and a small feather from my Present—my white hen." □


MY TREE'S BEEN CUT DOWN
A TREE THAT WAS VITAL IN CREATING OXYGEN OUT OF CARBON DIOXIDE
THIS MEANS THERE'S LESS OXYGEN FOR US TO BREATHE
I'M GLAD YOU TAKE THESE THINGS SERIOUSLY

A game from Argentina

Ball in the air

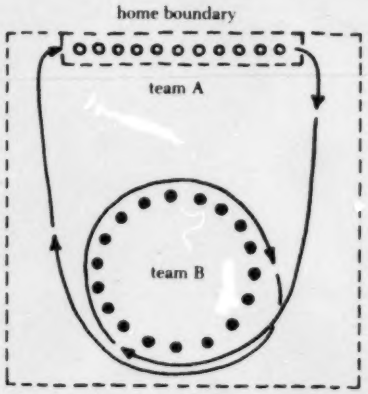
This game is played by two teams of 15 players on an indoor or outdoor playing field, 24 metres (about 36 paces) square. A home boundary is set up along one side of the field. A volleyball or basketball is all that is needed.

Team A members form a line along the home boundary and stand ready to run. Team B members form a circle, leaving a metre or so between each player.

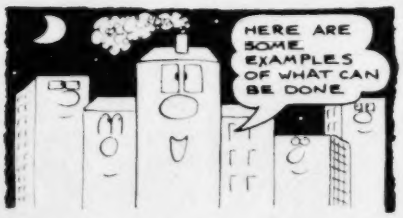
On a starting signal, the members of team A run as quickly as possible around team B. On the same starting signal, team B members begin to pass the volleyball backwards over their heads, from player to player. As each player catches the ball, he calls out the number of that pass.

After completing one loop (see diagram), team A members race back to the home boundary. When the last player crosses the boundary line, they all shout "Stop!" The players of team B stop, after finishing the pass in progress. The number of passes is recorded.

The teams change places and continue the game. The winning team is the one that makes the most passes.



This game is one from a set of UNICEF leaflets called ***Games Around the World.***



"Children" are "dirty"

An experiment carried out in some U.K. primary schools recently showed how the stereotyped image of the starving child so familiar in fund-raising advertisements for Third World aid programmes has dramatically affected the perceptions of children about their counterparts overseas. Jill Henderson, a B.Ed. Honours candidate in the U.K., chose for her dissertation to investigate children's knowledge and mental picture of overseas countries and people.

She surveyed 70 children aged 10 and 11-years-old in three primary schools in Didcot, Berkshire. One method used by Jill was to explore the children's word associations. She asked them to think of "Africa" and then of ideas such as "homes," "children," "food," and so on, and to write down the words that first came into their heads. There was, of course, no discussion with the children in advance.

The summary of the words most often recalled by the children tells us a great deal about the unbalanced picture they have of children in the developing world, informed as they mainly are by negative and distancing images. Associated with the word "children," the words most commonly applied were "dirty," "hungry," "ill," "poor," "skinny," "thin"; only one word with a positive connotation—"friendly" —was applied more than twice. In association with "food," the most commonly recalled words were foodstuffs: "rice," "bananas," "meat," "fruit"; the most commonly applied adjectives were "not much," "scarce," "horrible."

Houses were "straw," "mud," "sticks," "wood." Clothes were "animal skins," "dirty," "ragged," "tattered"; people were "poor," "thin," and "ill." One more cheerful note was struck by music: associations were "drums" and "singing." □

ICEF 7966 Wolff

New development education materials

Discussion kit on the State of the World's Children Report for schools and youth groups. This guide can be used by teachers and youth group leaders to interest 9 to 13-year-old children in the issues raised in the Report. It contains questions for discussion, suggested activities and visuals. The guide can be used independently from the Report. (in preparation)

Development Education Paper no. 22: Development Education and Peace Education: From Conflict to Co-operation by Robin Burns: the increasing interaction between development education and peace education, from both theoretical and practical viewpoints. Available in English and French. □

"The Gardens"

Following the publication of the "State of the World's Children 1981-82" report in December 1981, a new publication combining the report with an independent analysis of its ideas in action in one UNICEF assisted project—urban community services in Colombo, Sri Lanka—has now been issued. Written by development journalist Peter Adamson, this analysis takes the reader into the heart of the everyday life and problems of people living in "The Gardens," a Colombo slum neighbourhood.

The Gardens is not intended as a systematic evaluation of a specific set of UNICEF inputs—the installation of water and sanitation services, the training of community health workers—but rather as an expose of the way in which people living in an underpriviliged urban environment contain, react to, and sometimes build upon efforts to alleviate some of their problems. The picture it portrays of life in "the hidden half of the city" is graphic, poignant and refreshingly objective.

The following extract from **The Gardens** is one of the many profiles it draws upon.

"For most of the women of the slums, there is no relief from responsibility. To cope, they have to be tough under that deep gentleness. And it is not common for them to break down, even temporarily, under their difficulties. More often their sadnesses are seen in smiles which never quite reach the eyes. But on the steps of a clinic in Wanathamulla, Mrs Chandrasilie does break down, just for a moment.

Her baby of ten months is malnourished, his eyes made to seem abnormally large by the smallness with which his face is drawn, his sparse hair greying, his legs widest at the knee. A month ago, soon after being sterilised, this young mother's milk dried up. To her the two events were cause and effect. Whatever the reason, there was no money for commercial baby milk. And so, eventually, she has carried her light son the two miles to this clinic. Here he will stay under the care of one of Colombo's public health nurses until he has put on weight again.

The nurse, experienced but still kindly, waits as Mrs Chandrasilie rubs her cheek against her son's face until he smiles. Weak though he is, his two-handed grip on his mother's hair is not easily loosened.

Perhaps it is only the emotion of leaving her son, and the scarce-hidden sense of failure, which prises loose the rest of Mrs Chandrasilie's story. Her home is a shanty, built on a marsh. This year the rains came early, and the two-roomed

Some recent UNICEF films on environmental subjects

The urban challenge

A series of three 20-minute films which portray the reality of life for the urban poor in Bangkok, Thailand; Lima, Peru; and New York City, USA. Their purpose is to illustate the universal nature of the problems facing the marginalized and most neglected of the people who live in the great cities of the world.

The first film in the series, **City Count Down**, shows the difficulties of living, working, bringing up children, and growing up in an environment where housing is poor, water, sanitation and garbage disposal services almost non-existent, and child labour an accepted practice. What will it require—both from the urban poor themselves, and from city authorities and governments—to enable them to improve their living environment?

The second film, **Deciding a Future**, shows how in each of the three cities, communities which have organized themselves are engaged in the process of development. Hilda, a volunteer health worker in Peru, Khun Pling, a leader of a squatter settlement in Bangkok, and Nicky, a worker in Brooklyn, New York, are playing a role in their communities which is helping that process become established.

The third film, **Learning a Living**, illustrates one of poverty's vicious circles. The poor are so busy earning a living even from their earliest years that they miss out on the educational opportunities which would allow them to aspire to better jobs. Non-formal education in trade skills and literacy, for example, can help both children and adults make up some lost ground outside the school classroom.

The Urban Challenge, which was co-produced by the Regents Research Television Fund and UNICEF, presents a picture of people coping with, and sometimes reversing, the ruthless toll of urban pressure.

16mm; colour; English, French, Spanish

Journey for Survival

A 15-minute film about water and its impact on the quality of life of children and mothers in the developing countries, produced to reinforce the goal of the International Drinking Water and Sanitation Decade 1981-1990: "Water and Sanitation for all by the year 1990."

The film illustrates the predicament of those who live in parts of the world where drought and water-shortage have crippling effects on people's well-being. The burden of collecting the family's water supply falls invariably on mothers and their helpers, their children. The need to walk long distances to carry it home means that domestic use is limited, and hygiene and personal cleanliness are restricted. In addition, the water source is often contaminated and its impurities contribute to the spread of disease.

Journey for Survival was filmed in various locations throughout the world, and illustrates the approaches to water and sanitation problems using simple technology and community resources which UNICEF is involved in promoting.

16mm; colour; English, French, Spanish, Arabic.

hut is ankle deep in muddy water. Leeches now, as well as cockroaches, share her bedroom. She cannot cook at home, and has to buy hot rice—when she can—from a nearby stall. To bring her son to the clinic, she has borrowed a blouse and skirt from her sister. Her husband, sacked from his job in last year's failed general strike, now gets only casual work, occasionally driving somebody else's bullock cart. Mrs Chandrasilie herself also works, from six in the morning until six at night on a building site, carrying cement on her head. She is paid $1 a day of which 23 cents goes on bus fares. The remainder

"Why do we need a building?" asked one of the mothers of Samagipura Garden. "What's wrong with the tree?" The wish to see their children well cared-for led to a suggestion that they start a pre-school. Today, months later, with benches, boxes of playthings, a blackboard, and coloured rush mats, the children gather under the cong tree for their "class." The teachers were chosen by the mothers themselves.

is not enough for regular and nutritious food, let alone for the pencils and exercise books and decent clothes which would be needed to send her other children to school. The oldest child, a girl of nine, is working full-time.

It is what is happening to the nine year old girl, on top of leaving her baby at the clinic, which finally makes Mrs Chandrasilie close her eyes tight. The girl is working thirteen hours a day seven days a week as a servant in a middle-class household. For this she is paid US 25 cents a day. Yesterday, two plates were dropped as she took them from the table. Last night, she came home with new bruises rising on her face.

Mrs Chandrasilie's shoulders come forward in her sister's blue blouse and her head sinks. Her teeth bite into the lip but nothing now can stop the tears as she sits, defeated for a few moments, on the floor outside the clinic.

Limited copies of the State of the World's Children 1981-82 report plus The Gardens are available from UNICEF offices and National Committees.

Marking the 10th anniversary of Stockholm: Publications on the Environment

Down to Earth
Environment and human needs
Erik P. Eckholm
Foreword by Barbara Ward

This book, published ten years on from the World Environment Conference in Stockholm, is a sequel to the book which did so much to establish environmental and developmental concerns as overlapping and interlocking: **Only One Earth** by Barbara Ward and Réné Dubos, published in 1972.

Down to Earth follows the same theme, stressing the link between the fate of the global underclass—the billion poorest of the poor—and the fate of nature, arguing that environmental protection and shared economic progress must go hand in hand.

It reviews progress—and setbacks—in the fight to control pollution on land and at sea; the current state of whale populations and tropical forests; new threats to the climate and human health; the depletion of plant and animal species, firewood, and cultivable land. In each case Erik Eckholm analyses the world community's responses and suggests practical courses of action.

Erik Eckholm is a well-established author on environmental subjects, whose previous books are **Losing Ground** and **The Picture of Health.** He collaborated closely before her death with Barbara Ward on **Down to Earth**, which was written while he was a visiting fellow at the International Institute for Environment and Development.

Published by W.W. Norton, April 1982, $14.95

The State of the Global Environment: A Decade after Stockholm

To coincide with the anniversary of the Stockholm Conference on the Human Environment, The United Nations Environment Programme (UNEP) is releasing a comprehensive study of the environment that looks at the changes that have taken place in the ten years since the Environment Programme's inception.

The publication of the report is part of a campaign spearheaded by UNEP to bring about a resurgence of the environment movement at this ten year watershed. Launching the campaign on January 6, 1982, Dr. Mostafa Kamal Tolba, Executive Director of UNEP, said: "I believe the environment movement needs new expression."

Dr. Tolba attributed the apparent flagging in spirit for the environment movement to the present global economic crisis, but maintained that people's basic attitudes have not changed. Most people are aware, in ways that they were not aware in the fifties and sixties, of the impending problems caused by the earth's dwindling resources. "In the developing countries," Dr. Tolba pointed out, "the number of non-governmental organizations in the environment movement have increased from zero ten years ago to 1,000 today."

In May 1982, UNEP will hold a Session of Special Character of its Governing Council to mark the Stockholm anniversary, at which all United Nations member states will reaffirm their commitment to the principles of Stockholm and to the further implementation of the Programme's Action Plan.

The Ten-year State of the Environment Report, which will be published at the same time, is an attempt to provide an honest estimate of UNEP's successes and failures. The Report discusses how far the world environment has deteriorated—or improved—and evaluates the actions taken by the international community. Topics dealt with include the atmosphere, marine environment, population, human settlements, health, energy, transport, and recreation and tourism.

Available from: UNEP, P.O. Box 30552, Nairobi, Kenya

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